This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

COUNTWAY LIBRARY
HC 2E65 D

SAUNDERS'

MEDICAL HAND-ATLASES.

THE series of books included under this title are authorized translations into English of the world-famous

Lehmann Medicinische Handatlanten,

which for **scientific accuracy, pictorial beauty, compactness, and cheapness** surpass any similar volumes ever published.

Each volume contains from **50 to 100 colored plates,** besides numerous illustrations in the text. The colored plates have been executed by the most skilful German lithographers, in some cases more than twenty impressions being required to obtain the desired result. Each plate is accompanied by a full and appropriate **description,** and each book contains a condensed but adequate **outline of the subject** to which it is devoted.

One of the most valuable features of these atlases is that they offer a **ready and satisfactory substitute for clinical observation.** Such observation, of course, is available only to the residents in large medical centers; and even then the requisite variety is seen only after long years of routine hospital work. To those unable to attend important clinics these books will be absolutely indispensable, as presenting in a complete and convenient form the most accurate reproductions of clinical work, interpreted by the most competent of clinical teachers.

While appreciating the value of such colored plates, the profession has heretofore been practically debarred from purchasing similar works because of their extremely high price, made necessary by a limited sale and an enormous expense of production. Now, however, by reason of their projected **universal translation** and reproduction, affording international distribution, the publishers have been enabled to secure for these atlases the **best artistic and professional talent,** to produce them in the **most elegant style,** and yet to offer them at a **price heretofore unapproached in cheapness.** The great success of the undertaking is demonstrated by the fact that the volumes have already appeared in **thirteen different languages**—German, English, French, Italian, Russian, Spanish, Dutch, Japanese, Danish, Swedish, Roumanian, Bohemian, and Hungarian.

The same careful and competent **editorial supervision** has been secured in the English edition as in the originals. The translations have been edited by the **leading American specialists** in the different subjects. The volumes are of a uniform and convenient size (5 × 7½ inches), and are substantially bound in cloth.

(For List of Books, Prices, etc. see back cover.)

Pamphlet containing specimens of the Colored Plates
sent free on application.

1.50 Δ50
fky ug

ATLAS AND PRINCIPLES

OF

BACTERIOLOGY

AND TEXT-BOOK OF

SPECIAL BACTERIOLOGIC DIAGNOSIS

BY

PROF. DR. K. B. LEHMANN

Director of the Hygienic Institute in Würzburg

AND

R. O. NEUMANN, DR. PHIL. and MED.

Assistant in the Hygienic Institute in Würzburg

AUTHORIZED TRANSLATION FROM THE SECOND ENLARGED AND REVISED GERMAN EDITION

EDITED BY

GEORGE H. WEAVER, M.D.

Assistant Professor of Pathology, Rush Medical College, Chicago

PART I—ATLAS

With 632 Figures on 69 Lithographic Plates

PHILADELPHIA AND LONDON

W. B. SAUNDERS & COMPANY

1901

BOSTON MEDICAL LIBRARY
IN THE
FRANCIS A. COUNTWAY
LIBRARY OF MEDICINE

COPYRIGHT, 1901, BY W. B. SAUNDERS & COMPANY

REGISTERED AT STATIONERS' HALL, LONDON, ENGLAND

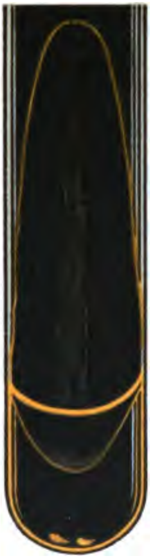
INDEX OF PLATES.

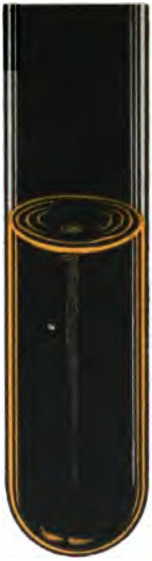
PLATE.
1. Streptococcus pyogenes. Rosenbach.
2. Streptococcus lanceolatus. Gamaleia. (Diplococcus pneumoniæ. A. Fränkel.)
3. Sarcina flava. De Bary, emended by Lehm. and Stubenrath.
4. Sarcina aurantiaca. Flügge.
5. Sarcina cervina. Stubenrath.
Sarcina pulmonum. Virchow.
Sarcina erythromyxa. Král.
Sarcina lutea. Flügge.
Sarcina aurantiaca. Flügge.
Sarcina rosea. Schröter, emended by Zimmermann.
Micrococcus badius. Lehm. and Neum.
Sarcina canescens. Stubenrath.
6. Micrococcus luteus. Cohn, emended by Lehm. and Neum.
Sarcina pulmonum. Virchow, Hauser.
7. Micrococcus tetragenus. Koch, Gaffky.
8. Micrococcus pyogenes α aureus. (Ros.) Lehm. and Neum. (Staphylococcus pyogenes aureus. Rosenbach.)
9. Micrococcus pyogenes γ albus. (Ros.) L. and N. (Staphylococcus pyogenes albus. Rosenbach).
Micrococcus pyogenes β citreus. (Ros.) (Staphylococcus pyogenes citreus. Rosenbach.)
Micrococcus candicans. Flügge.
10. Micrococcus gonorrhœæ. Neisser, Bumm.
11. Micrococcus roseus. (Bumm.) Lehm. and Neum.
12. Bacterium septicæmiæ hæmorrhagicæ. Hüppe. (Chicken cholera, rabbit septicemia.)
13. Bacterium pestis. Lehm. and Neum.
14. Bacterium acidi lactici. Hüppe. (Lactic acid bacillus.)
15. Bacterium pneumoniæ. Friedländer.
16. Bacterium typhi. Eberth, Gaffky. (Typhoid bacillus.)
17. Bacterium typhi. Eberth, Gaffky.
18. Bacterium coli. (Escherich.) Lehm. and Neum.
19. Bacterium coli. (Escherich.) Lehm. and Neum.
20. Bacterium latericium. Adametz.
Bacterium hæmorrhagicum. (Kolb.) Lehm. and Neum. (Morb. Werlhofii.)
21. Bacterium prodigiosum. (Ehrenberg.) Lehm. and Neum.

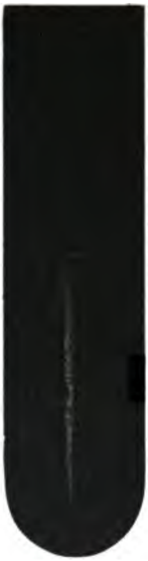
PLATE.
22. Bacterium kiliense. (Breunig and Fischer.) Lehm. and Neum.
23. Bacterium violaceum. (J. Schröter.) Lehm. and Neum.
24. Bacterium pyocyaneum. (Flügge.) Lehm. and Neum. (Green pus.)
25. Bacterium fluorescens. (Flügge.) Lehm. and Neum. (Bacillus fluorescens liquefaciens, Flügge.)
26. Bacterium putidum. (Flügge.) Lehm. and Neum.
27. Bacterium syncyaneum. (Ehrenberg.) Lehm. and Neum. (Bacillus cyanogenes Flügge. Blue milk.)
28. Bacterium syncyaneum. (Ehrenberg.) Lehm. and Neum.
29. Bacterium Zopfii. Kurth.
30. Bacterium Zopfii. Kurth.
31. Bacterium vulgare. (Hauser.) Lehm. and Neum. (Proteus vulgaris Hauser.)
32. Bacterium vulgare β mirabilis. (Hauser.) Lehm. and Neum.
33. Bacterium erysipelatos suum. (Löffler.) Migula. (Hog erysipelas.)
Bacterium murisepticum. (Flügge.) Migula. (Mouse septicemia.)
34. Bacillus anthracis. F. Cohn and R. Koch. (Splenic fever.)
35. Bacillus anthracis. F. Cohn and R. Koch. (Splenic fever.)
36. Bacillus anthracis. F. Cohn and R. Koch. (Splenic fever.)
37. Bacillus mycoides. Flügge. (Root-bacillus.)
38. Bacillus mycoides. Flügge.
Bacillus butyricus. Hüppe. (Butyric acid bacillus.)
Bacillus vulgatus. (Flügge.) Migula.
39. Bacillus subtilis. F. Cohn. (Hay-bacillus.)
40. Bacillus subtilis. F. Cohn.
41. Bacillus megatherium. De Bary.
42. Bacillus vulgatus. (Flügge.) Migula. (B. mesentericus vulgatus Flügge.) Potato bacillus.
43. Bacillus mesentericus. (Flügge.) Lehm. and Neum. (B. mesentericus fuscus Flügge.)
44. Bacillus tetani. Nicolaier. (Tetanus bacillus, lock-jaw.)
45. Bacillus Chauvoeï. Macè. (Symptomatic anthrax, black-leg.)
46. Bacillus œdematis maligni. Koch.
47. Vibrio choleræ. (Koch.) Buchner. (Comma bacillus.)
48. Vibrio choleræ. (Koch.) Buchner.
49. Vibrio choleræ. (Koch.) Buchner.
50. Vibrio choleræ. (Koch.) Buchner.
51. Vibrio choleræ. (Koch.) Buchner.
Vibrio Metschnikovii. Gamaleia.
52. Vibrio Proteus. Buchner. (Vibrio Finkler.)
53. Vibrio danubicus. Heider.
Vibrio berolinensis. Rubner.
Vibrio aquatilis. Günther.
54. Vibrio albensis. Lehm. and Neum. (Phosphorescent Elbe Vibrio.)
55. Spirillum rubrum. v. Esmarch.

PLATE.
Spirillum concentricum. Kitasato.
56. Spirillum serpens. (E. O. Müller.) Zettnow.
Spirilla from nasal mucus.
Spirillum undula. Ehrenberg.
Spirillum spermatozoides. Löffler.
Spirochæte of oral mucus.
Spirillum Obermeieri. F. Cohn. (Spirilla of recurrent fever.)
57. Corynebacterium malleï. (Löffler.) Lehm. and Neum. (Glanders bacillus.)
58. Corynebacterium diphtheriæ. (Löffler.) Lehm. and Neum. (Diphtheria bacillus.)
Corynebacterium pseudodiphtheriticum. (Hoffmann-Wellenhof.) Lehm. and Neum. (Pseudodiphtheria bacillus.)
Corynebacterium xerosis. (Kuschbert, Neisser.) Lehm. and Neum. (Xerosis bacillus.)
59. Corynebacterium diphtheriæ. L. and N.
Corynebacterium pseudodiphtheriticum. L. and N.
Corynebacterium xerosis. L. and N.
60. Corynebacterium diphtheriæ. L. and N.
Corynebacterium pseudodiphtheriticum. L. and N.
Corynebacterium xerosis. L. and N.
61. Mycobacterium tuberculosis. (Koch.) L. and N. (Tubercle bacillus.)
62. Mycobacterium lepræ. (Arm. Hansen.) L. and N. (Lepra bacillus.)
Mycobacterium tuberculosis γ piscicola. L. and N.
63. Mycobacterium lacticola β perrugosum. L. and N.
Mycobacterium phleï. Lehm. and Neum.
64. Mycobacterium lacticola a planum. L. and N.
65. Actinomyces bovis. Harz. (Actinomycosis.)
66. Actinomyces farcinicus. (Nocard.) Gasperini. (Fracin du bœuf.)
67. Actinomyces chromogenes. Gasperini. (Cladothrix dichotoma Autorum non Cohn.)
68. Bacterium tussis convulsivæ. (Czaplewski and Hensel.) (Whooping-cough.)
Bacterium ulceris cancrosi. (Ducrey, Kruse.) L. and N. (Ulcus molle.)
Streptococcus meningitidis cerebrospinalis (Weichselbaum). Lehm. and Neum.
Bacterium influenzæ. (R. Pfeiffer.) L. and N. (Influenza bacillus.)
Bacillus gangrænæ pulpæ. Arkövy.
69. Leptothrix epidermidis. Biz.

Tab. 1.

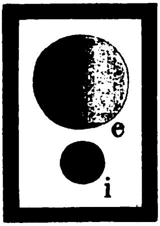

I.


II.

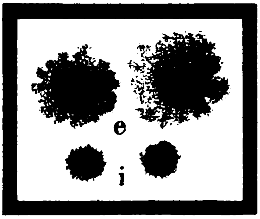

III.

IV.

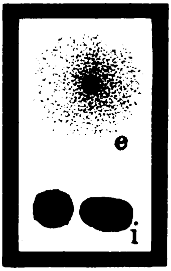
V.



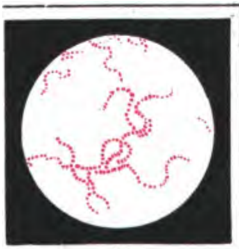
VII.

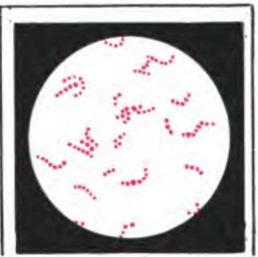


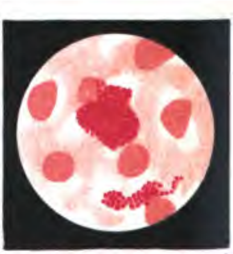
VI.



VIII.


IX.


X.


XI.

Lith. Anst. F. Reichhold, München.

PLATE I.

Streptococcus pyogenes. Rosenbach.

I. *Agar streak culture,* ten days at 37°.

II. *Gelatin stab culture,* six days at 22°. So vigorous a growth does not often occur.

III. *Agar stab culture,* six days at 37°. Stab canal.

IV. *Agar stab culture,* six days at 37°. Surface growth.

V. *Gelatin plate,* six days at 22°.

VI. *Gelatin plate,* six days at 22°. × 70. Somewhat abnormal form with irregular borders. The larger colonies are superficial; the smaller, deep.

VII. *Gelatin plate,* six days at 22°. × 70. Common form. The upper, superficial; the lower, deep.

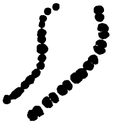
VIII. *Agar plate,* eight days at 37°. × 50. Larger colony superficial; smaller colonies, deep.

IX. *Microscopic preparation* from a two days' bouillon culture at 37°. × 700. The individual cocci are usually more regularly round.

X. *Microscopic preparation* from a two days' agar culture. Shorter chains. × 1000.

XI. *Microscopic preparation,* designated Streptococcus conglomeratus. Smear preparation from the blood of the spleen from a case of scarlatina. Copied from Kurth (Kaiserl. Gesundheitsamt., Bd. VII, cfr. XV, 6 and 8).

XII. *Chains of streptococci,* before and during division. Highly magnified.



XII.

PLATE 2.

Streptococcus lanceolatus. Gamaleïa. (Diplococcus pneumoniæ A. Fränkel.) (Pneumococcus.)

I. *Gelatin stab culture,* ten days at 22°.

II. *Agar streak culture,* four days at 37°.

III. *Agar stab culture,* four days at 37°. Stab canal.

IV. *Agar stab culture,* four days at 37°. Surface growth.

V. *Agar plate,* three days at 37°. Natural size.

VI. *Agar plate,* three days at 37°. × 50. Superficial colony. The darker colony lies near the surface.

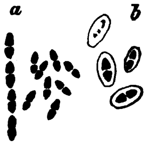
VII. *Agar plate,* three days at 37°. × 50. Deep colonies.

VIII. *Gelatin plate,* eight days at 22°. The upper colony is superficial; the lower ones, deep.

IX. *Smear preparation* from pneumonic sputum. × 1000.

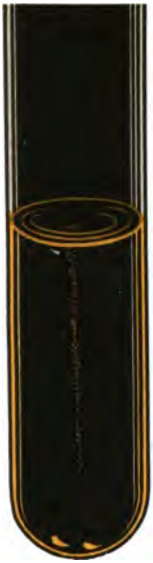
X. *Pure culture* from a three days' old agar plate. × 1000.

XI. *Microscopic preparations:* (*a*) Diplococci as single pairs and in chains. Highly magnified. (*b*) Diplococci surrounded by gelatinous capsules.

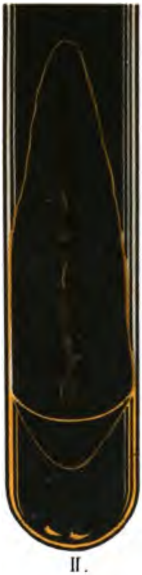


XI.

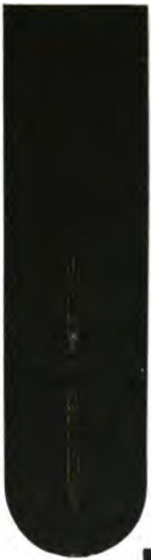
Tab. 2.



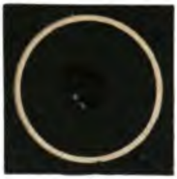
I.



II.

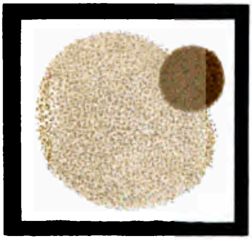


III.

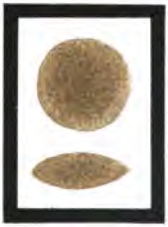


IV.

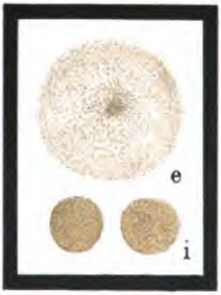
V.



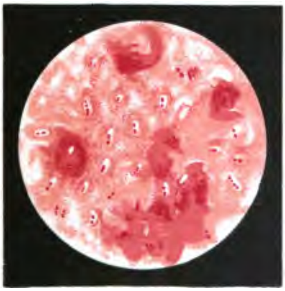
VI.



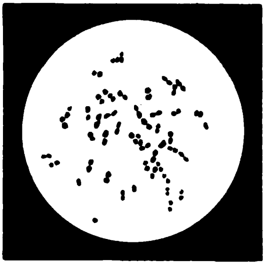
VII.



VIII.



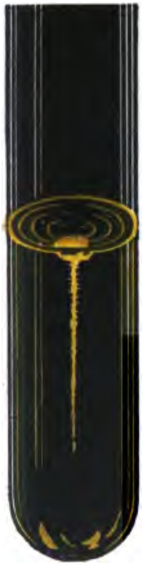
IX.

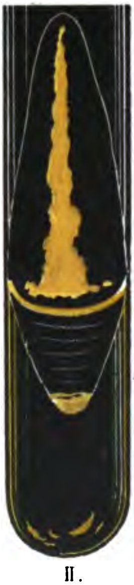


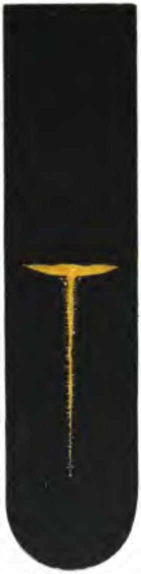
X.

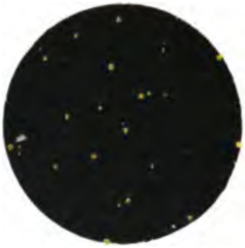
Lith. Anst F. Reichhold. München.

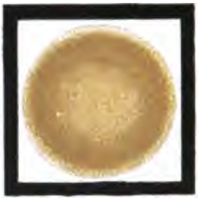
Tab. 3.


I.

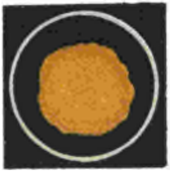

II.

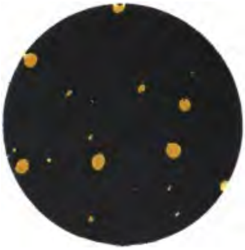

III.

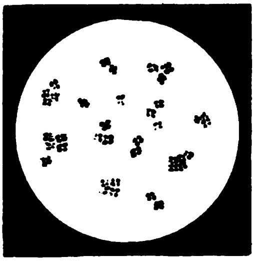

V.

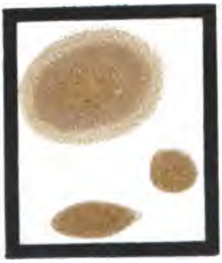

VI.

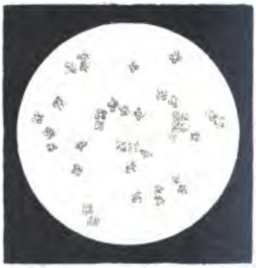
IX.


IV.


VII.


X.


VIII.


XI.

Lith. Anst. F. Reichhold, München.

PLATE 3.

Sarcina flava. De Bary, emended by Lehm. and Stubenrath.

I. *Gelatin stab culture,* ten days at 22°.

II. *Agar streak culture,* six days at 22°.

III. *Agar stab culture,* six days at 22°; stab canal.

IV. *Agar stab culture,* six days at 22°; surface growth.

V. *Gelatin plate,* five days at 22°. Natural size.

VI. *Gelatin plate,* five days at 22°. × 60. Superficial colony.

VII. *Agar plate,* six days at 22°. Natural size.

VIII. *Agar plate,* six days at 22°. × 60. Upper colony is superficial, lower ones are deep.

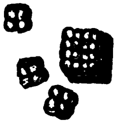
IX. *Potato culture,* ten days at 22°.

X. *Microscopic preparation.* Pure culture from an agar plate. × 1000. Stained with fuchsin and differentiated with acetic acid.

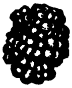
XI. *Microscopic preparation.* Pure culture in bouillon; unstained. × 1000.

XII. *Sarcinæ forming bales of packets.* (Single packets regularly grouped together.)

XIII. *Sarcinæ in bunches of packets.* (Single or irregular packets, grouped together irregularly.)



XII.



XIII.

PLATE 4.

Sarcina aurantiaca. Flügge.

I. *Gelatin stab culture,* six days at 22°.

II. *Agar streak culture,* five days at 22°. The color is not so red in all cases; usually light orange. This is also true of the agar stab and potato cultures.

III. *Agar stab culture,* six days at 22°. Stab canal.

IV. *Agar stab culture,* six days at 22°. Surface growth.

V. *Gelatin plate,* five days at 22°. Natural size. The gray zone about the colonies indicates a depression.

VI. *Gelatin plate,* five days at 22°. × 60. A colony in the early stage. The gray ring represents a zone where it is sinking in.

VII. *Agar plate,* five days at 22°. Natural size.

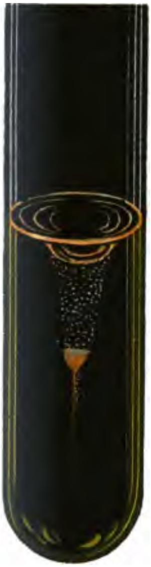
VIII. *Agar plate,* five days at 22°. × 60. Upper colony, superficial; lower colonies, deep. The superficial colonies usually become opaque toward the center.

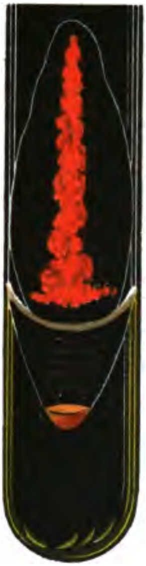
IX. *Potato culture,* eight days old.

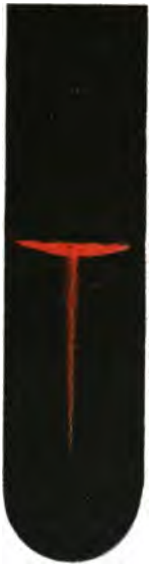
X. *Microscopic preparation.* Pure culture from agar. × 1000. Stained with fuchsin, differentiated with acetic acid.

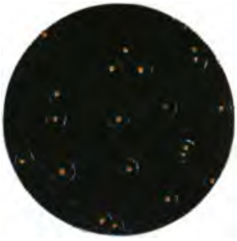
XI. *Microscopic preparation.* Pure culture in bouillon. × 1000. Unstained, partly schematic.

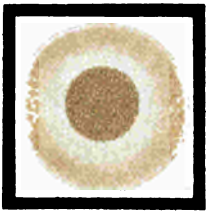
Tab. 4.

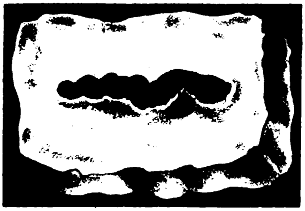

I.

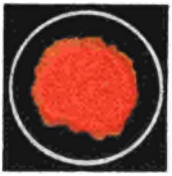

II.

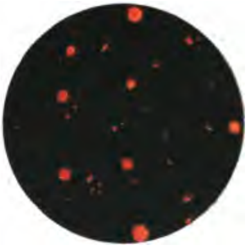

III.

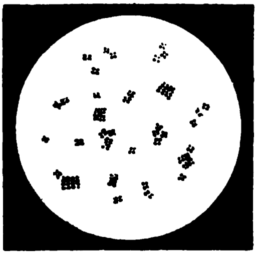

V.

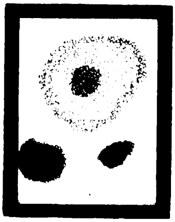

VI.

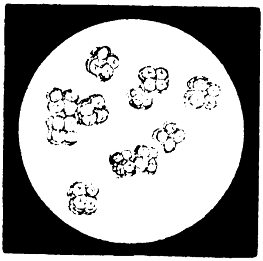

IX.


IV


VII.

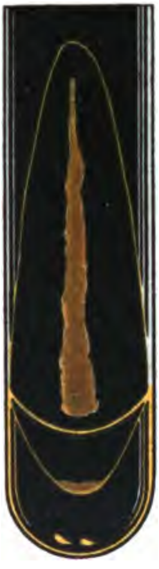

X.

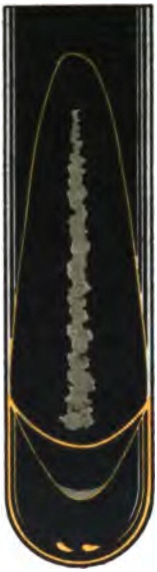

VIII.

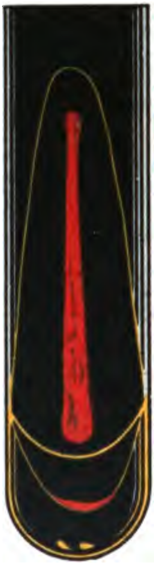

XI.

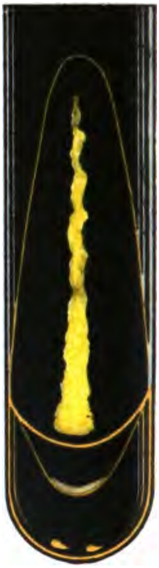
Lith. Anst. F. Reichhold München.

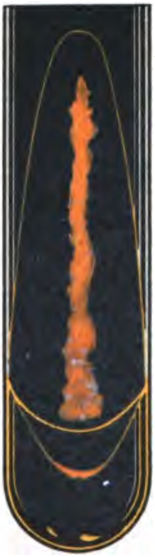
Tab. 5.

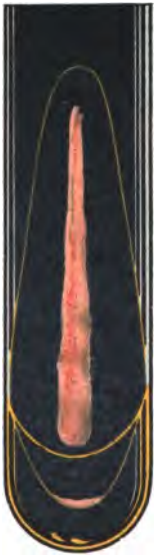

I.

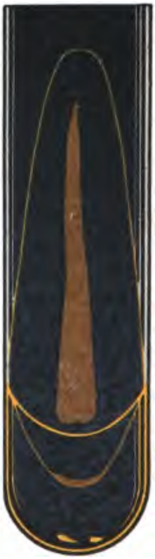

II.

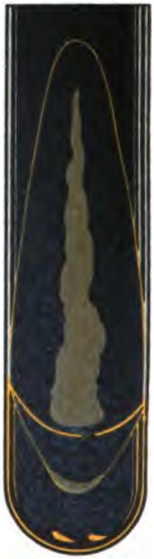

III.


IV.


V.


VI.


VII.


VIII.

Lith. Anst. F. Reichhold München

PLATE 5.

Various Sarcinæ.

I. **Sarcina cervina** Stubenrath. Agar streak culture, fifteen days at 22°, isolated from gastric contents.

II. **Sarcina pulmonum** Virchow. Agar streak culture, fifteen days at 37°.

III. **Sarcina erythromyxa** Král. Agar streak culture, thirty days at 22°, isolated from beer.

IV. **Sarcina lutea** Flügge. Agar streak culture, ten days at 22°, isolated from stomach.

V. **Sarcina aurantiaca** Flügge. Agar streak culture, ten days at 22°, isolated from yeast.

VI. **Sarcina rosea** Schröter, emended by Zimmermann. Agar streak culture, twenty-five days at 22°, isolated from light-beer.

VII. **Micrococcus radius** Lehm. and Neum. Agar streak culture, fifteen days at 22°, isolated from air.

VIII. **Sarcina canescens** Stubenrath. Agar streak culture, twenty days at 22°, isolated from the stomach.

PLATE 6.

Micrococcus luteus. Ferd. Cohn, emended by Lehm. and Neum.

I. *Gelatin stab,* six days at 22°.

II. *Gelatin plate,* three days at 22°. × 50. To the left, superficial; to the right, a deep colony.

III. *Microscopic preparation.* × 1000. From a two-days'-old agar plate. Often the micrococci are grouped in tetrads.

IV. *Agar plate,* five days at 22°. Natural size. The colonies are sometimes more yellow.

V. *Potato culture,* six days at 22°. Sometimes it has a dull luster.

Sarcina pulmonum. Virchow. Hauser.

(Pulmonary Sarcina.)

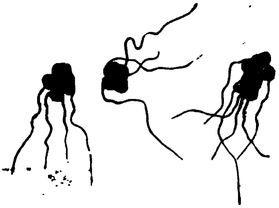
VI. *Gelatin stab,* twenty days at 22°. The stab is in reality more gray.

VII. *Agar streak,* twenty days at 22°.

VIII. *Gelatin plate,* twenty days at 22°. To the left, a superficial; to the right, a deep colony.

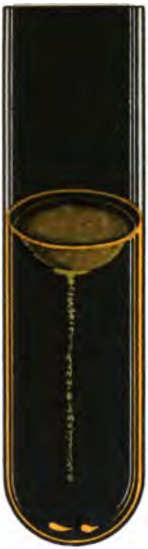
IX. *Potato culture,* twenty days at 22°.

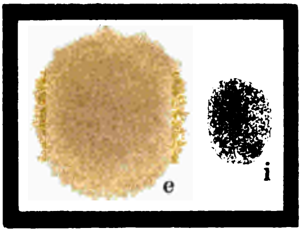
X. *Stained flagella.* Highly magnified.



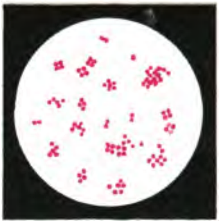
X.

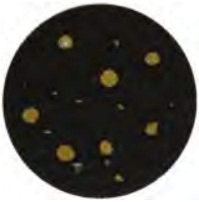
Tab. 6.

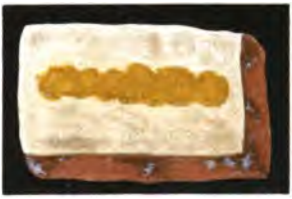

I.

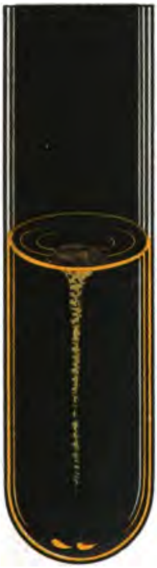


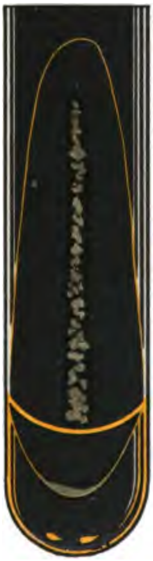
II.

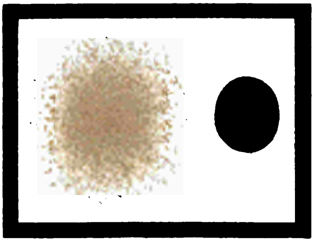

III.


IV.


V.


VI.

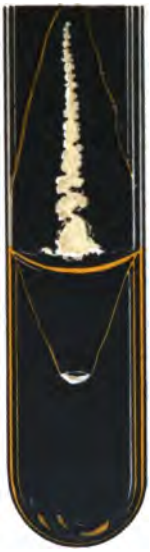

VII.

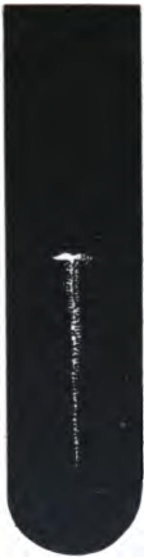

VIII.

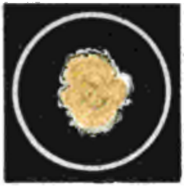
IX.

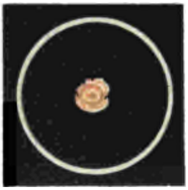
Lith. Anst. F. Reichhold, München.

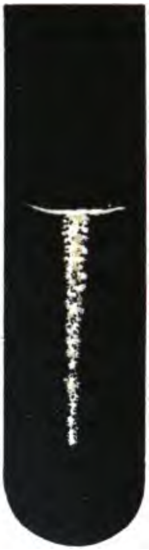
Tab. 7.

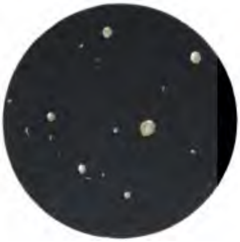

I.

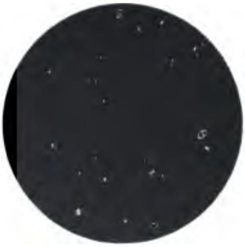

II.

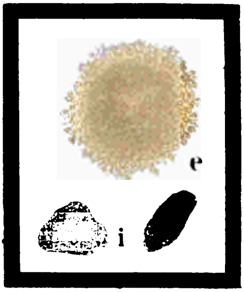

IV.


III.

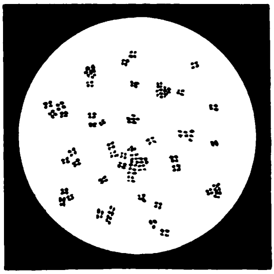

V.

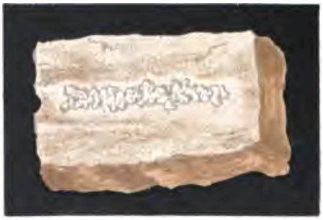

VI.


VII.



VIII.


IX.


X.

Lith. Anst. F. Reichhold, München.

PLATE 7.

Micrococcus tetragenus. Koch. **Gaffky.**

I. *Agar streak culture,* five days at 37°.

II. *Gelatin stab culture,* ten days at 22°. Stab canal. Characteristic nail-head form.

III. *Gelatin stab culture,* ten days at 22°; surface growth. In the reproduction the color has turned out brown, but should be white.

IV. *Agar stab culture,* six days at 37°. Surface growth.

V. *Agar stab culture,* six days at 37°. The growth along the stab is not always so luxuriant.

VI. *Agar plate,* five days at 37°. Natural size.

VII. *Gelatin plate,* eight days at 22°. The colonies are naturally pure white. Natural size.

VIII. *Gelatin plate,* eight days at 22°. × 60. The larger colony is superficial; the smaller, deep.

IX. *Microscopic preparation.* From a two-days'-old agar culture. × 800. There are not always found tetrads alone, often also single cocci.

X. *Potato culture,* seven days at 37°.

XI. *Microscopic picture.* Tetrads before, during, and after division; highly magnified.

XI.

PLATE 8.

Micrococcus pyogenes α aureus. (Rosenbach.) Lehm. and Neum.

(Staphylococcus aureus Ros.)

I. *Gelatin stab culture,* six days at 22°.

II. *Agar streak culture,* five days at 22°.

III. *Agar stab culture,* five days at 22°. Stab canal.

IV. *Agar stab culture,* five days at 22°; surface growth.

V. *Agar plate culture,* six days at 22°, natural size. Superficial and deep colonies.

VI. *Agar plate,* six days at 22°. × 60. Small superficial colony.

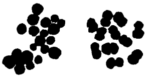
VII. *Gelatin plate,* four days at 22°, natural size. Superficial and deep colonies.

VIII. *Gelatin plate,* four days at 22°. × 60. Superficial and deep colonies.

IX. *Potato culture,* six days at 22°.

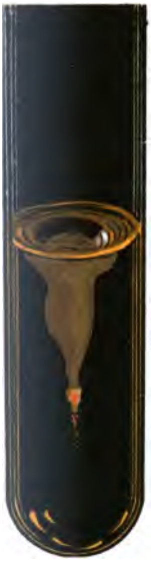
X. *Microscopic preparation.* × 1000. From an agar culture, two days old, at 22°.

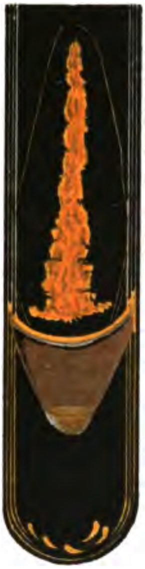
XI. *Microscopic preparation.* Single cocci, before, during, and after division. × 1500.

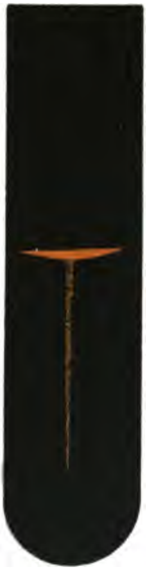


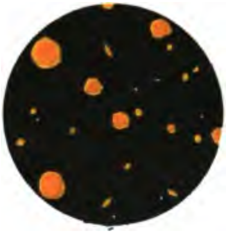
XI.

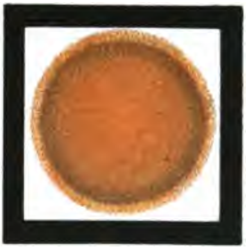
Tab. 8.

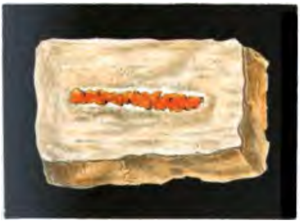

I.

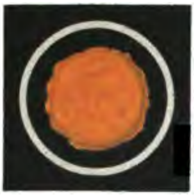

II.

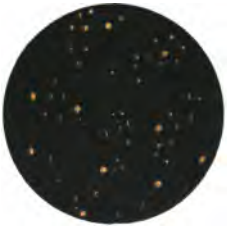

III.

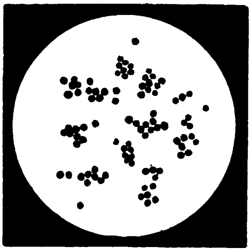

V.

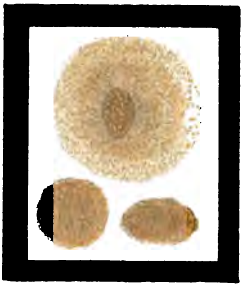

VI.


IX.


IV.

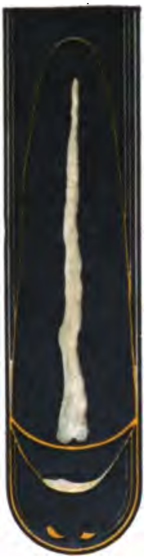

VII.

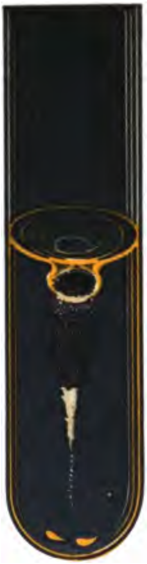

X.

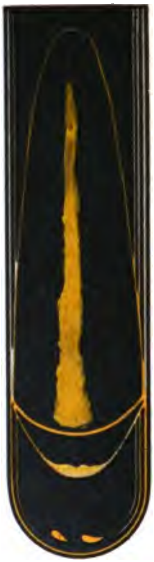

VIII.

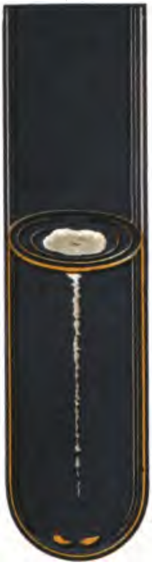
Lith. Anst. F. Reichhold, München.

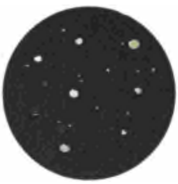
Tab. 9.

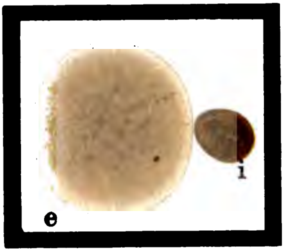

I.


II.

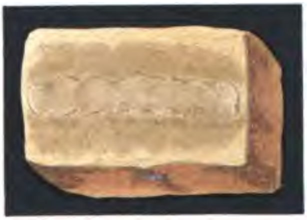

III.


IV.


V.



VI.


VII.

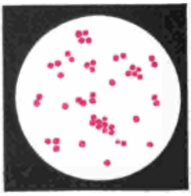

VIII.

PLATE 9.

Micrococcus pyogenes γ albus. (Rosenbach.) L. and N.

(Staphylococcus albus Rosenbach.)

I. *Agar streak culture,* four days at 22°.
II. *Gelatin stab culture,* five days at 22°.

Micrococcus pyogenes β citreus. (Rosenbach.) L. and N.

(Staphylococcus citreus Rosenbach.)

III. *Agar streak culture,* six days at 22°.

Micrococcus candicans. Flügge.

IV. *Gelatin stab culture,* six days at 22°.
V. *Gelatin plate,* eight days at 22°.
VI. *Gelatin plate,* six days at 22°. × 50. To the left a superficial, to the right a deep colony.
VII. *Potato culture,* ten days at 22°.
VIII. *Microscopic preparation* from a two-days'-old culture on agar. × 700.

PLATE 10.

Micrococcus gonorrhœæ. Neisser. Bumm.

I. *Agar streak culture,* ascites-glycerin-agar, three days at 37°.

II. *Agar plate,* forty-eight hours at 37°. × 60. Superficial colonies. The agar was poured out, and blood from the finger-tip smeared upon it, and upon this was placed the gonorrheal pus. The reddish places are blood. The colonies of the gonococcus grow principally at the periphery of the blood smear.

III. *Serum-agar plate.* The upper colony three days, the lower twenty-four hours, at 37°. × 60. Superficial colonies. One c.c. of human serum was added to the agar.

IV. *Serum-agar plate.* The same colonies after eight days.

V. *Ascites-glycerin-agar plate,* forty-eight hours at 37°. × 60. Superficial colonies of a pure culture from blennorrheal pus. To 5 c.c. of a 2% agar, containing 5% of glycerin, 1.5 c.c. of human ascites-fluid were added.

VI. *Ascites-glycerin-agar plate,* forty-eight hours, at 37°. × 60. Superficial colonies. After pouring out the agar, blennorrheal pus was smeared upon it. The darker septa are pus (pushed together by the growing colonies); also the material at the periphery of the colonies.

VII. *Smear preparation from gonorrheal pus.* × 1000. Stained with methylene-blue.

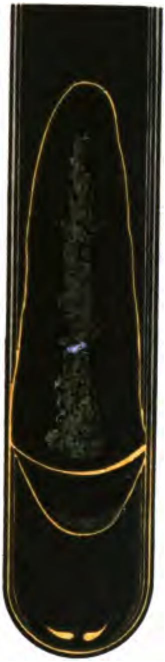
VIII. *Smear preparation from blennorrheal pus.* × 1000. Stained with methylene-blue. A pus cell in which lie the micrococci, almost always in fours in capsules. The preparation contains a great many micrococci thus situated.

IX. *Smear preparation from blennorrheal pus.* × 1000. Stained with methylene-blue and eosin.

X. *Micrococci,* highly magnified, schematic.

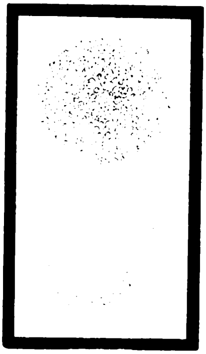
X.

Tab. 10.



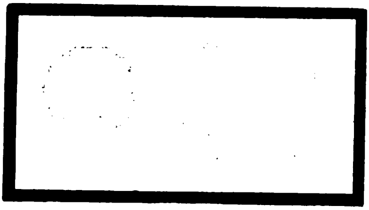
I.

II.

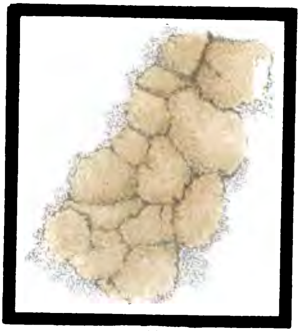


III.

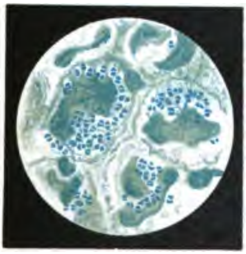
IV.



V.

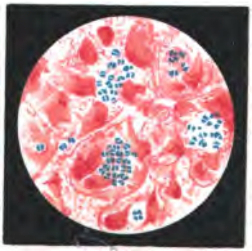


VI.



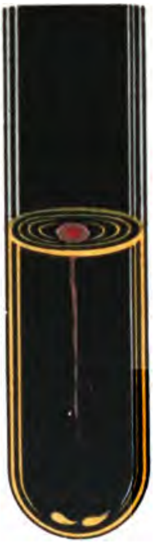
VII.

VIII.

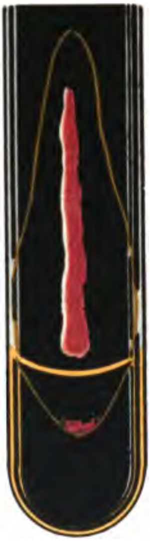


IX.

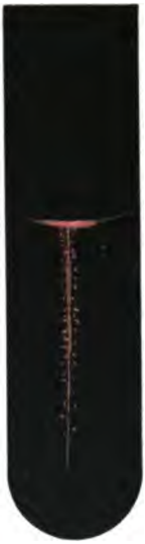
Tab. 11.



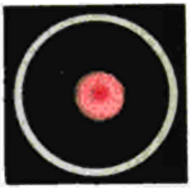
I.



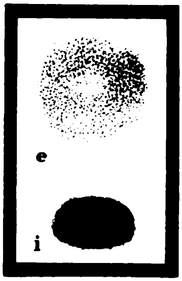
II.



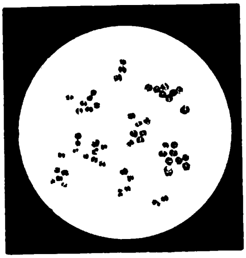
III.



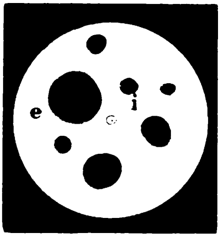
IV.



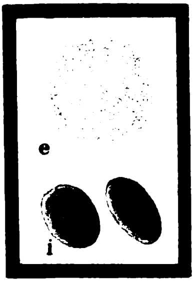
V.



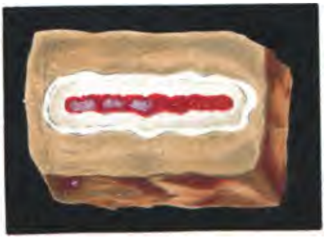
VIII.



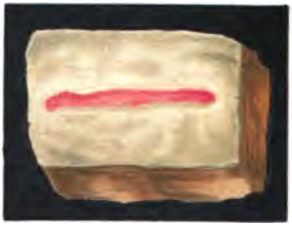
VII.



VI.



IX.



X.

Lith. Anst F. Reichhold, München.

PLATE II.

Micrococcus roseus. (Bumm.) **Lehm. and Neum.**
(Diplococcus roseus Bumm.)

I. *Gelatin stab culture*, twenty days at room temperature.

II. *Agar streak culture*, thirty days at room temperature. The white reflex on the right side is not always so marked.

III. *Agar stab culture*, ten days at 22°. Stab canal.

IV. *Agar stab culture*, ten days at 22°. Surface growth.

V. *Agar plate*, twelve days at 22°. × 50. Above, a superficial; below, a deep colony.

VI. *Agar plate*, fourteen days at 22°. × 50. More delicate structure. Above, a superficial; below, deep colonies.

VII. *Gelatin plate*, eight days at 22°. × 50. Superficial and deep colonies.

IX. *Potato culture*. A culture of the Diploc. roseus, grown upon a culture of anthrax; ten days at room temperature.

X. *Potato culture*, twenty days at room temperature.

XIII. *Microscopic preparation*, from three-days'-old agar culture. × 1000. The cocci are undergoing division.

PLATE 12.

Bacterium septicæmiæ hæmorrhagicæ. Hüppe.

(Chicken Cholera, Rabbit Septicemia, etc.)

I. *Gelatin stab culture,* seven days at 22°.

II. *Agar streak culture,* seven days at 22°.

III. *Agar plate,* five days at 22°. Natural size.

IV. *Agar plate,* five days at 22°. × 60. Superficial colony. Compare also Plate 14, VI; Plate 17, VI; Plate 18, VII.

V. *Agar plate,* five days at 22°. × 60. Deep colonies.

VI. *Gelatin plate,* five days at 22°. Natural size.

VII. *Gelatin plate,* five days at 22°. × 90. Deep colonies.

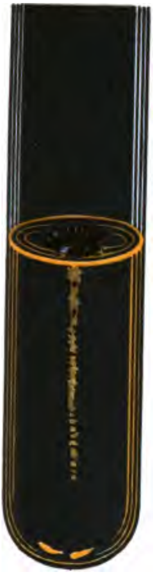
VIII. *Gelatin plate,* five days at 22°. × 90. Superficial colony. Compare also Plate 14, VIII; Plate 17, I; Plate 16, VIII; Plate 19, III, IV, VII.

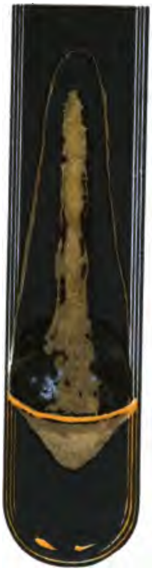
IX. *Microscopic preparation.* × 1000. Pure culture from agar plate.

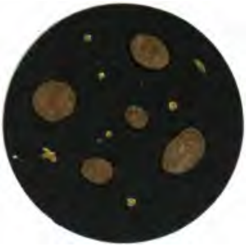
X. *Single bacteria.* Highly magnified. Schematic.

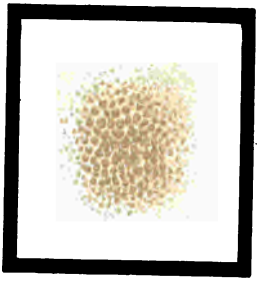
X.

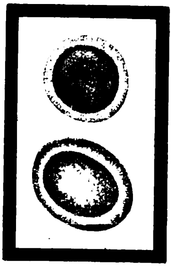
Tab. 12.

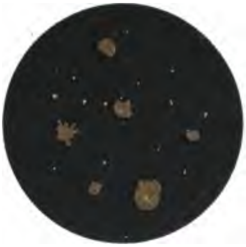

I.

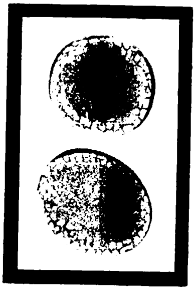

II.

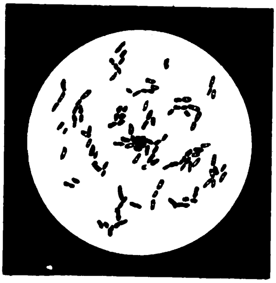

III.

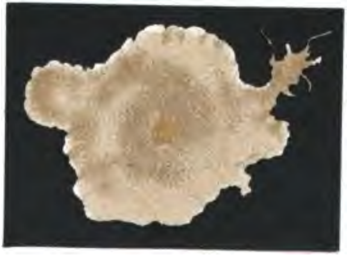

IV.


VII.


VI.

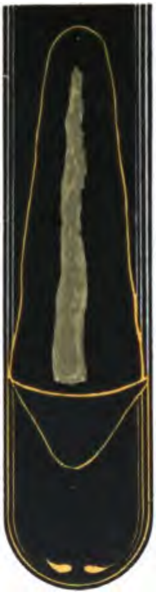

V.


IX.

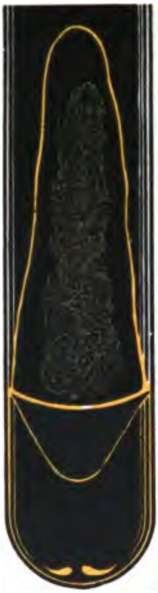

VIII.

Lith. Anst. F. Reichhold, München.

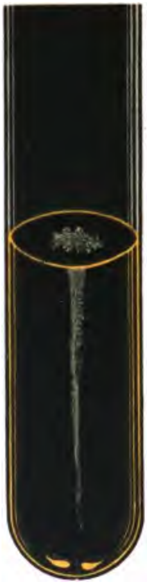
Tab. 13.



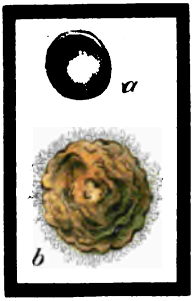
I.



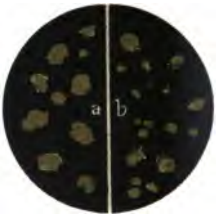
II.



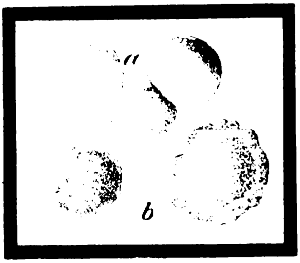
III.



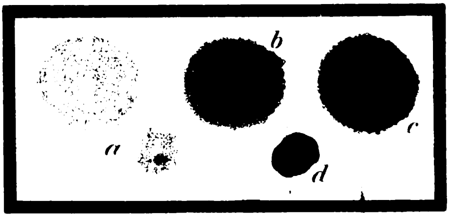
IV.



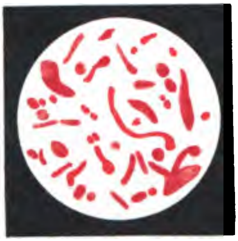
V.



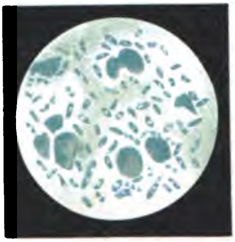
VI.



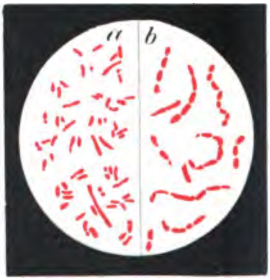
VII.



VIII.



IX.



X.

Lith. Anst. F. Reichhold, München.

PLATE 13.

Bacterium pestis. Lehm. and Neum.

I. *Streak culture* (ascites-glycerin-agar), three days at 37°.

II. *Streak culture* (agar), forty-eight hours at 37°. (After a culture of Dr. Dieudonné, preserved with formalin.) The streak was made with the juice direct from a bubo. The transparent, dewdrop-like growth is characteristic.

III. *Stab culture* (gelatin), six days at 22°. The growth consists of minute, waxy, markedly elevated colonies, which become confluent; also the same upon the gelatin plate (v, *b*).

IV. *Plate culture* (gelatin), six days at 22°. × 60. (*a*) Deep colony; (*b*) superficial colony.

V. *Plate culture:* (*a*) Glycerin-agar, three days at 37°. Natural size. Superficial colonies. (*b*) Gelatin, six days at 22°. Natural size. Superficial colonies. Compare what is said under Fig. III.

VI. *Plate culture* (agar), forty-eight hours at 37°. × 60. Superficial colonies. They correspond to the dewdrop-like colony in the agar streak culture (II). (*a*) Younger, (*b*) older colonies.

VII. *Plate cultures,* forty-eight hours at 37°. × 60.

(*a*) Ordinary agar }
(*b*) Glycerin-agar } Superficial colonies.
(*c*) Ascites-glycerin-agar }
(*d*) Ascites-glycerin-agar, deep colony.

The crumbly character of cultures after being cultivated in contrast to very fresh cultures is to be noted (compare VI).

VIII. *Microscopic preparation,* three days at 37° on glycerin-agar. × 1000. Stained with fuchsin. Involution forms.

IX. *Microscopic preparation:* Smear from the juice of a bubo. × 1000. Stained with methylene-blue. (From a preparation of Dr. Dieudonné.)

X. *Microscopic preparation:* (*a*) Ordinary agar, twenty-four hours at 37°. × 1000. Stained with fuchsin. (*b*) Ordinary bouillon, twenty-four hours at 37°. × 1000. Stained with fuchsin.

PLATE 14.

Bacterium acidi lactici. Hüppe. (Lactic Acid Bacillus.)

I. *Gelatin stab culture,* five days at 22°. The stab canal in nature is somewhat whiter.

II. *Agar streak culture,* five days at 22°.

III. *Agar stab culture,* three days at 22°. Stab canal.

IV. *Agar stab culture,* three days at 22°. Surface growth.

V. *Agar plate,* three days at 22°. Natural size.

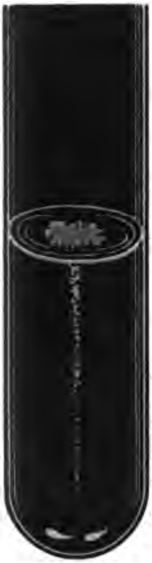
VI. *Agar plate,* three days at 22°. × 50. Upper colony superficial, lower colonies deep. Compare also Plate 18, VII.

VII. *Gelatin plate,* two days at 22°. Natural size.

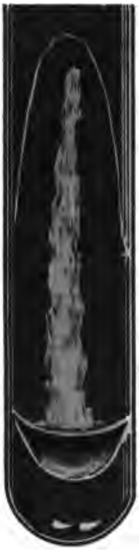
VIII. *Gelatin plate,* two days at 22°. × 50. Upper colony superficial, lower colonies deep. The superficial colonies may vary very much. Compare also Plate 16, VIII, IX; Plate 17, I, II; Plate 19, IV, VII.

IX. *Microscopic preparation.* Pure culture from an agar colony. × 800.

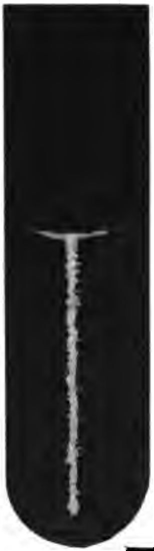
X. *Potato culture,* six days at 22°. The air-bubbles on the surface often cover it completely.



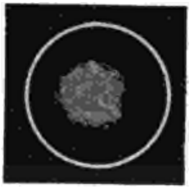
I.



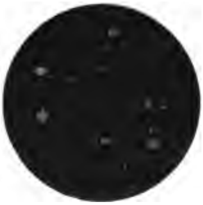
II.



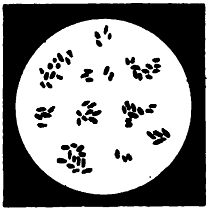
III.



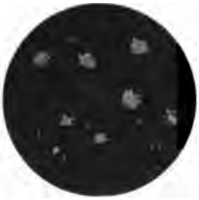
IV.



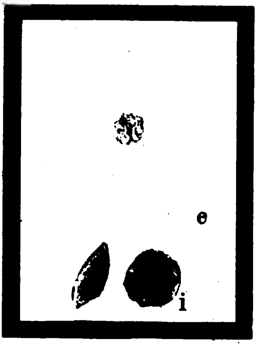
V.



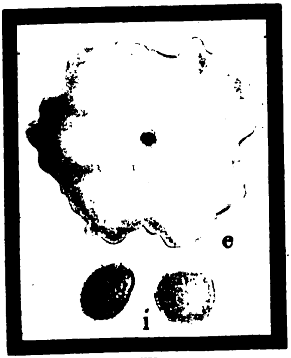
IX.



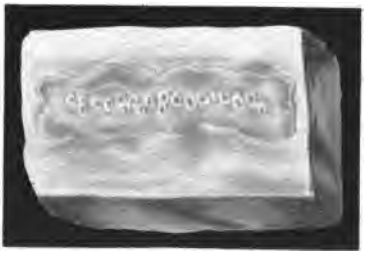
VII.



VI.



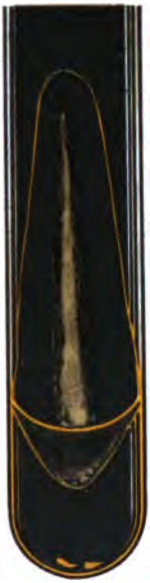
VIII.



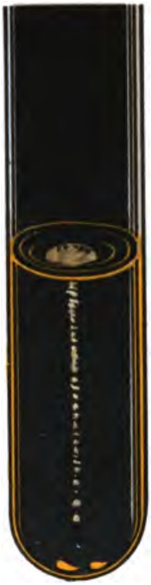
X.

Lith. Anst. F. Reichhold, München

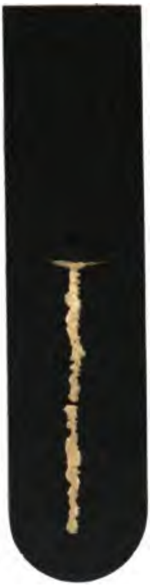
Tab. 15.



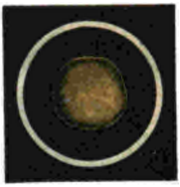
I.



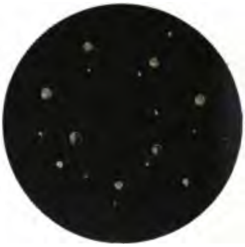
II.



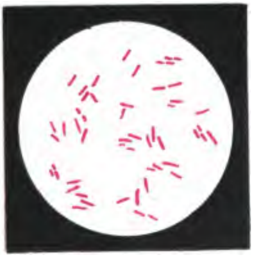
III.



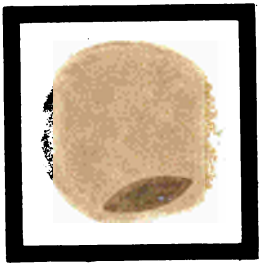
IV.



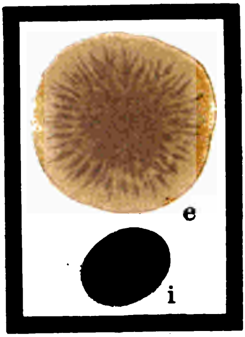
V.



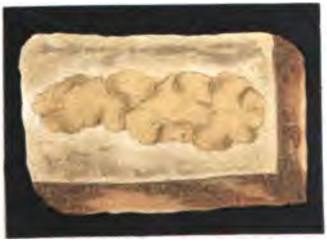
IX.



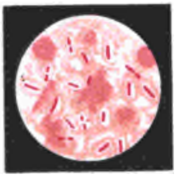
VI.



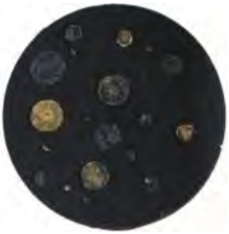
VII.



XI.



X.



VIII.

Lith. Anst. F. Reichhold, München

PLATE 15.

Bacterium pneumoniæ. Friedländer. (Friedländer's Pneumonia Bacillus.)

I. *Agar streak culture,* four days at 22°.

II. *Gelatin stab culture,* ten days at 22°.

III. *Agar stab culture,* four days at 22°. Stab canal.

IV. *Agar stab culture,* four days at 22°. Surface growth.

V. *Gelatin plate,* three days at 22°. Natural size.

VI. *Agar plate,* two days at 22°. × 60. The brown whetstone-shaped colony is deep.

VII. *Gelatin plate,* three days at 22°. × 50. Upper, superficial; lower, deep colony.

VIII. *Agar plate,* four days at 22°. Natural size. The delicate gray colonies are deep; also the smallest colonies. One colony in the reproduction has turned out yellowish.

IX. *Microscopic preparation.* Pure culture from an agar plate. × 800. Stained with fuchsin.

X. *Microscopic preparation.* Smear preparation from sputum. × 800. Stained with fuchsin.

XI. *Potato culture,* six days.

PLATE 16.

Bacterium typhi. Eberth. Gaffky. (Typhoid Bacillus.)

I. *Agar stab culture,* three days at 22°. Stab canal.

II. *Agar stab culture,* three days at 22°. Surface growth.

III. *Gelatin stab culture,* eight days at 22°. Stab canal.

IV. *Gelatin stab culture,* eight days at 22°. Surface growth.

V. *Agar streak culture,* four days at 22°. Compare also Plate 18, III.

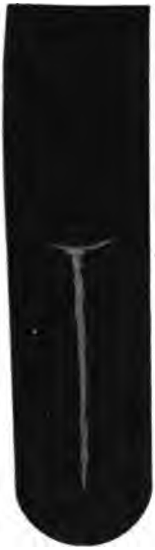
VI. *Gelatin streak culture,* three days at 22°. Compare also Plate 18, II.

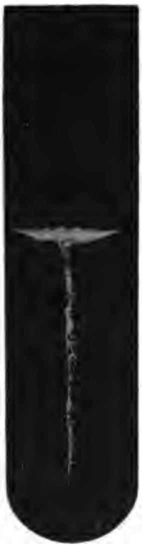
VII. *Gelatin plate,* thirty-six hours at 22°. Deep colony. Compare also Plate 14, VIII; Plate 19, V.

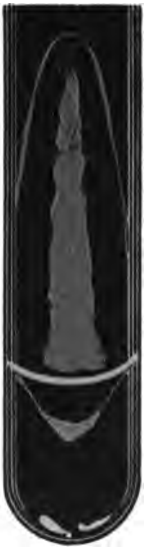
VIII. *Gelatin plate,* thirty-six hours at 22°. Superficial colony. Compare also Plate 14, VIII; Plate 19, III.

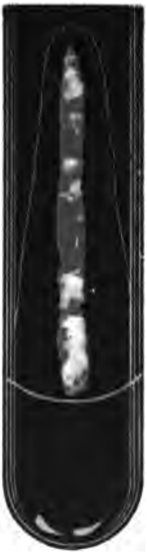
IX. *Gelatin plate,* four days at 22°. Superficial colony. Compare also Plate 19, IV, VII.

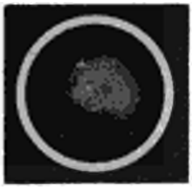
Tab. 16.

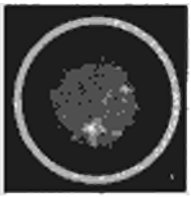

I.

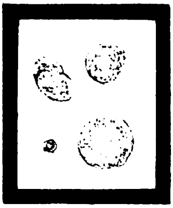

III.

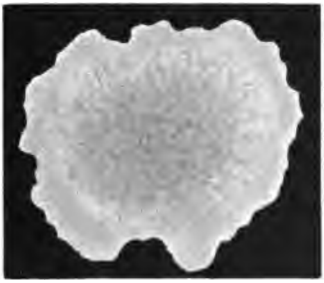

V.

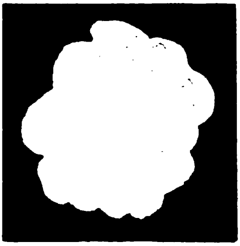

VI.


II.


IV.

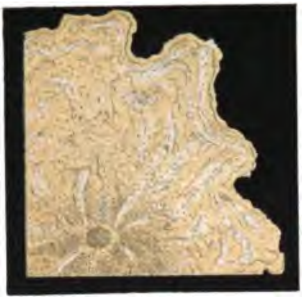

VII.

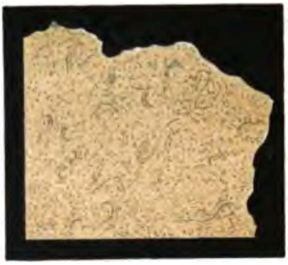

IX.

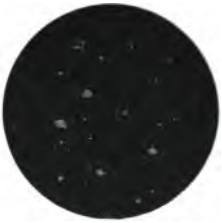

VIII.

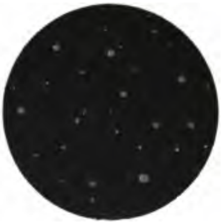
Lith. Anst F Reichhold. München

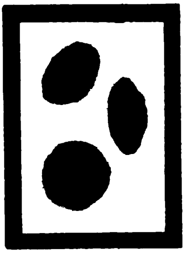
Tab. 17.

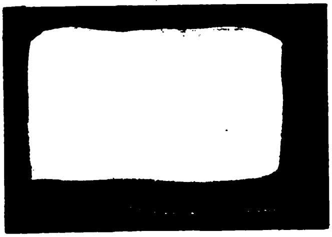

I.

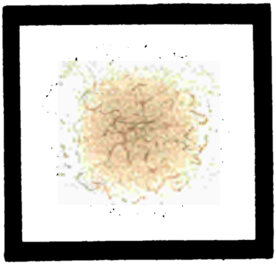

II.

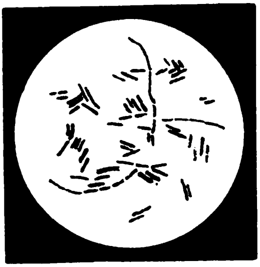

III.

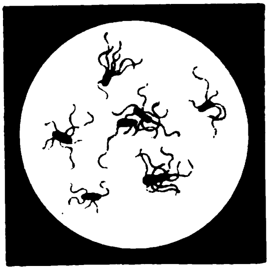

IV.


V.


VII.


VI.


VIII.


IX.

Lith. Anst. F. Reichhold, München.

PLATE 17.

Bacterium typhi. Eberth. Gaffky. (Typhoid Bacillus.)

I. *Gelatin plate,* eight days at 22°. × 90. Superficial colony. Compare also Plate 19, VI, VII.

II. *Gelatin plate,* eight days at 22°. × 150. Superficial colony.

III. *Gelatin plate,* four days at 22°. Natural size.

IV. *Agar plate,* four days at 22°. Natural size.

V. *Agar plate,* four days at 22°. × 60. Deep colonies.

VI. *Agar plate,* four days at 20°. × 60. Superficial colony.

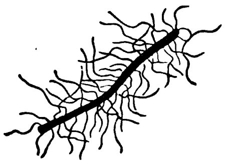
VII. *Potato culture,* five days at 22°.

VIII. *Microscopic preparation.* Pure culture from agar plate. × 1000.

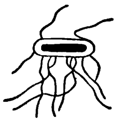
IX. *Microscopic preparation.* Bacilli with flagella. Copied after Fränkel and Pfeiffer. "Atlas der Bakterienkunde," Plate 54, III.

X. *Microscopic preparation.* Long threads thickly beset with flagella. × 1500. Stained by Löffler's method.

XI. *Microscopic preparation of Bacterium typhi murium* Löffler, with flagella and capsule. × 1500. Stained by Löffler's method.



X.



XI.

PLATE 18.

Bacterium coli (Escherich). L. and N.

I. *Gelatin stab culture,* ten days at 22°.

II. *Gelatin streak culture,* four days at 22°. In nature is transparent, resembling mother-of-pearl in iridescence. Compare also Plate 16, VI.

III. *Agar streak culture,* four days at 22°. Compare also Plate 16, V.

IV. *Agar stab culture,* two days at 22°. Stab canal.

V. *Agar stab culture,* two days at 22°. Surface growth.

VI. *Agar plate,* four days at 22°. × 60. Deep colonies. Compare also Plate 14, VI.

VII. *Agar plate,* four days at 22°. × 60. Part of a superficial colony. May also occasionally present forms like the bacillus acidi lactici. Compare Plate 12, IV; Plate 14, VI; Plate 17, VI.

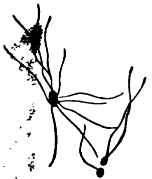
VIII. *Agar plate,* three days at 22°. Natural size.

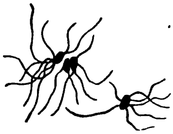
IX. *Potato culture,* five days at 22°. May also be paler or more deeply colored.

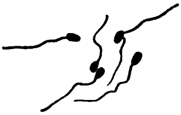
X. *Bacteria with long flagella of Bacterium brassicæ acidæ.* × 1000. Stained according to Löffler.

XI. *Bacterium of pigeon diphtheria surrounded by flagella.* × 1000. Stained according to Löffler.

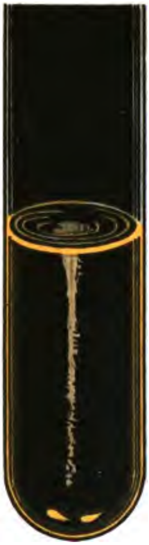
XII. *Bacteria with one flagellum, rarely two flagella, of Bact. coli β unipolaris.* × 1000. Stained according to Löffler.

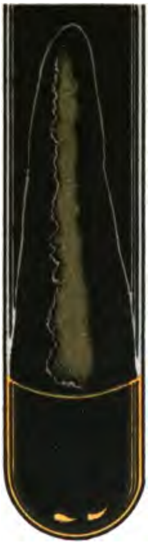

X.

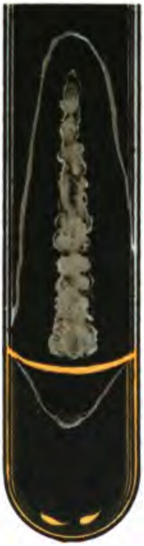

XI.

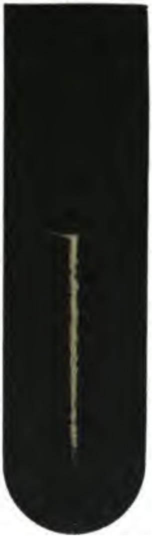

XII.

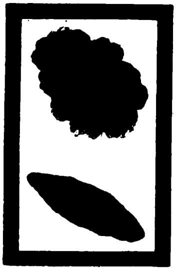
Tab. 18.

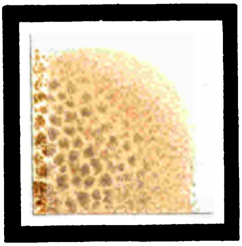

I.

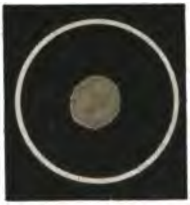

II.


III.

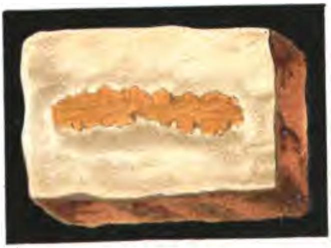

IV.


VI.


VII.

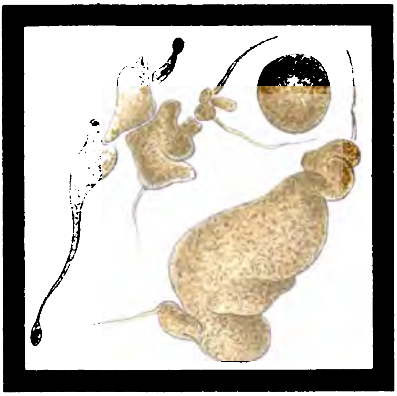

V.

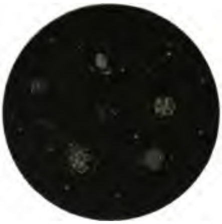
VIII.

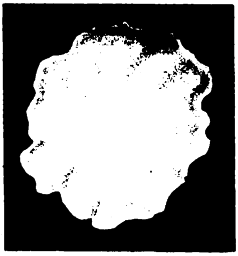

IX.

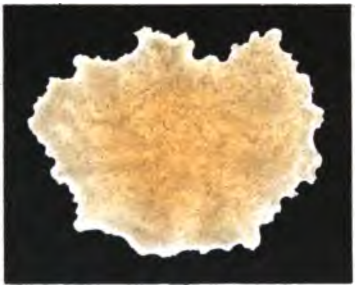
Lith. Anst. F. Reichhold, München.

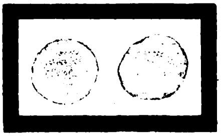
Tab. 19.

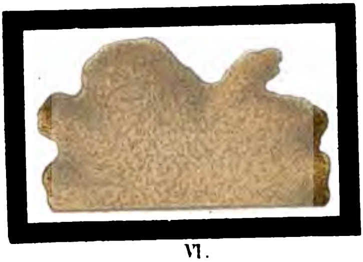

I.

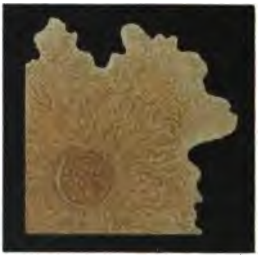

II.

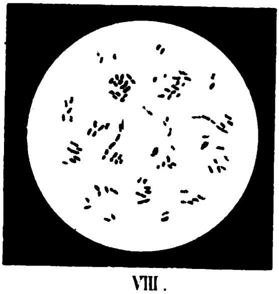

III.


IV.


V.


VI.


VII.


VIII.

Lith. Anst. F. Reichhold, München.

PLATE 19.

Bacterium coli (Escherich). L. and N.

I. *Gelatin plate,* eight days at 22°. × 60. Cultivated from pus. Deep colonies of abnormal form.

II. *Gelatin plate,* four days at 22°. Natural size.

III. *Gelatin plate,* one day at 22°. × 90. Superficial colony. Compare also Plate 14, VIII; Plate 16, VIII.

IV. *Gelatin plate,* four days at 22°. × 60. Superficial colony. Compare also Plate 16, IX; Plate 17, I, II.

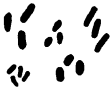
V. *Gelatin plate,* four days at 22°. × 60. Deep colonies.

VI. *Gelatin plate,* ten days at 22°. × 90. Superficial colony.

VII. *Gelatin plate,* ten days at 22°. × 90. Superficial colony.

VIII. *Microscopic preparation.* Pure culture from agar plate. × 500.

IX. *Different varieties of coli bacteria.* × 1000. Variable sizes.



IX.

PLATE 20.

Bacterium latericium. Adametz.

I. *Agar streak culture,* seven days at 22°.

II. *Gelatin stab culture,* fourteen days at 22°.

III. *Gelatin plate,* seven days at 22°. × 60. To the right deep, to the left superficial colonies.

IV. *Potato culture,* thirty days at 22°. Natural size.

V. *Agar plate,* seven days at 22°. × 60. To the right a superficial, to the left a deep colony.

VI. *Microscopic preparation.* Pure culture on agar, twenty-four hours old. × about 800.

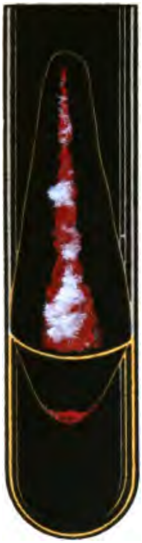
Bacterium hæmorrhagicum (Kolb). L. and N.

(Morbus Werlhofii.)

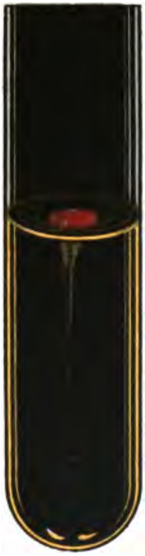
VII. *Microscopic preparation.* Pure culture from bouillon, three days old. (Copied after Kolb, A. G., Bd. VII, Plate II, Figs. 1 and 2.)

VIII. *Smear preparation from the liver of a dog.* (Copied after Kolb, *l. c.,* Bd. VII, Plate III, Fig. 8.)

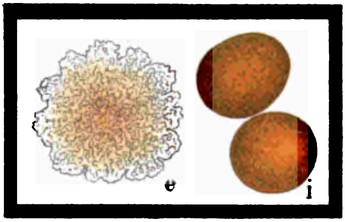
Tab. 20.



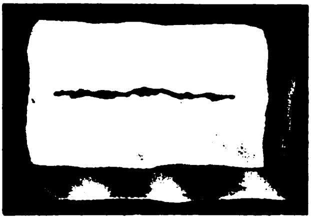
I.



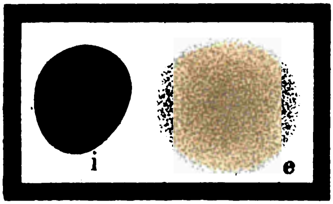
II.



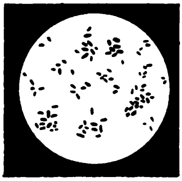
III.



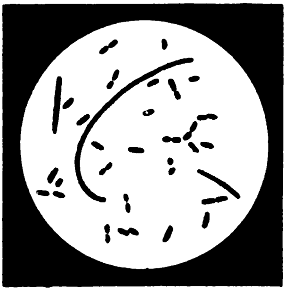
IV.



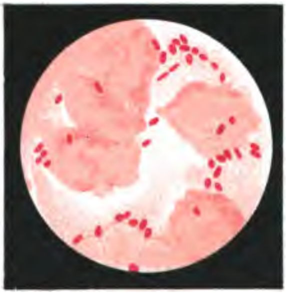
V.



VI.



VII.

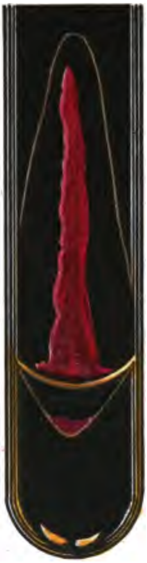


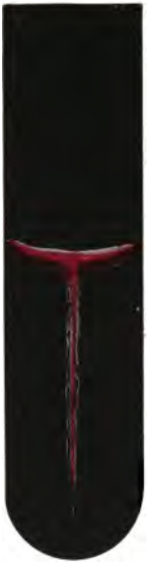
VIII.

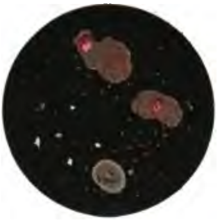
Lith. Anst. F. Reichhold, München.

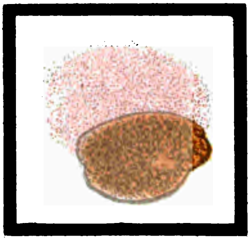
Tab. 21.

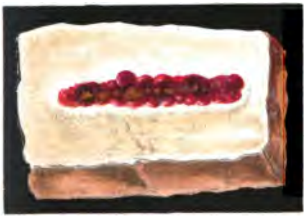
I.

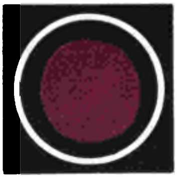

II.

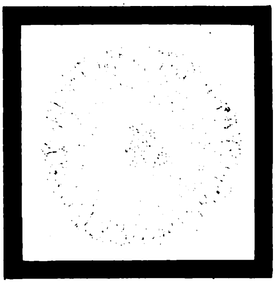

III.

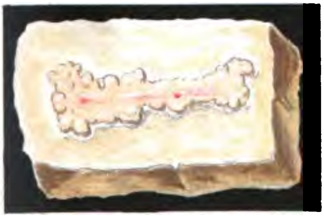

V.

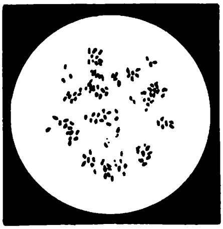

VI.


IX.


IV.


VII.


X


XI.

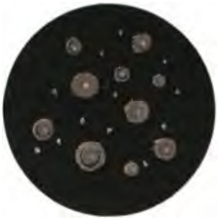

VIII.

PLATE 21.

Bacterium prodigiosum (Ehrenb.). Lehm. and Neum.

I. *Gelatin stab culture,* one day at 22°.

II. *Agar streak culture,* four days at 22°.

III. *Agar stab culture,* four days at 22°. Stab canal.

IV. *Agar stab culture,* four days at 22°. Surface growth.

V. *Agar plate,* from two to four days at 22°. Natural size. Colonies with and without color.

VI. *Agar plate,* eight days at 22°. × 60. Superficial colony reddish, deep one yellowish.

VII. *Gelatin plate,* two days at 22°. × 60. Superficial colony just beginning to sink in.

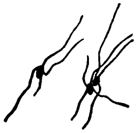
VIII. *Gelatin plate,* two days at 22°. Natural size.

IX. *Potato culture,* eight days at 22°. Typical with metallic luster on the surface.

X. *Potato culture,* eight days at 22°. Atypical white growth.

XI. *Microscopic preparation.* Pure culture from agar. × 800. Stained with fuchsin.

XII. *Bacteria with several flagella.* × 1000. Stained according to Löffler.



XII.

PLATE 22.

Bacterium kiliense (Breunig and Fischer). L. and N.
(Kiel Water Bacillus.)

I. *Agar streak culture,* four days at 22°.

II. *Gelatin stab culture,* four days at 22°. No formation of pigment.

III. *Gelatin plate,* five days at 22°. Natural size. Colonies with and without production of pigment.

IV. *Gelatin plate,* five days at 22°. × 60. Superficial colony.

V. *Gelatin plate,* five days at 22°. × 60. Deep colony.

VI. *Agar plate,* five days at 22°. Natural size. Colored and uncolored, superficial and deep colonies.

VII. *Agar plate,* five days at 22°. × 60. Colorless colonies. To the right, superficial; to the left, deep.

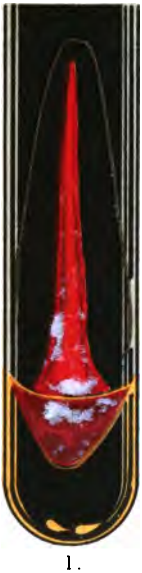
VIII. *Agar plate,* five days at 22°. × 60. Colored colonies. To the right, superficial; to the left, deep.

IX. *Microscopic preparation.* Pure culture from agar plate. × 1000. Stained with fuchsin.

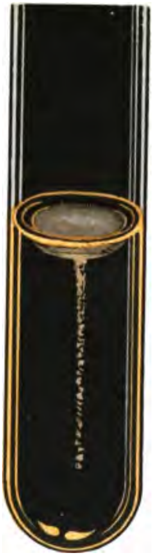
X. *Potato culture,* five days at 22°.

XI. *Bacteria with several flagella.* × 1000. Stained according to Löffler.

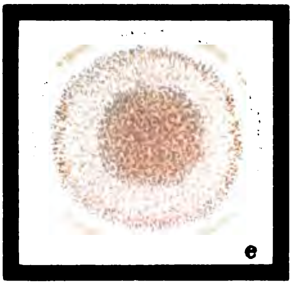
XI.



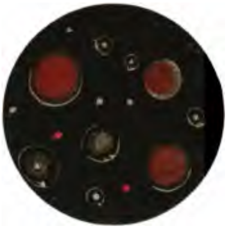
I.



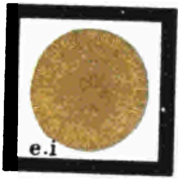
II.



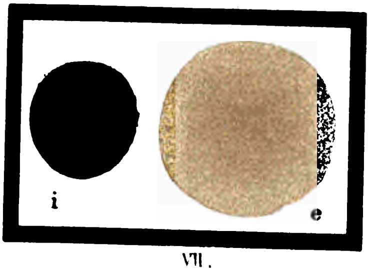
IV.



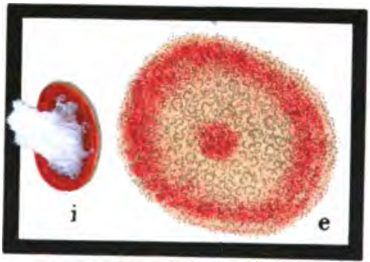
III.



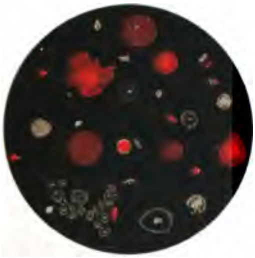
V.



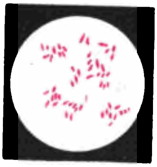
VII.



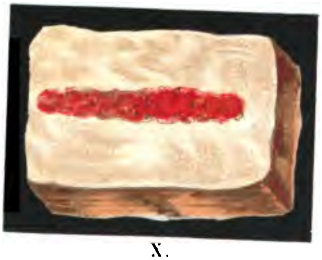
VIII.



VI.



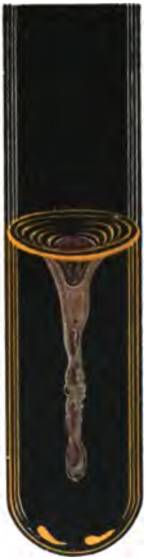
IX.



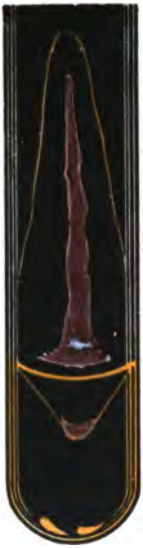
X.

Lith. Anst F. Reichhold München

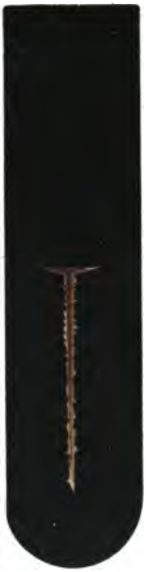
Tab. 23.



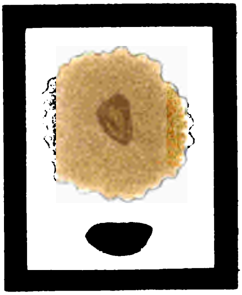
I.



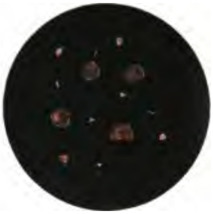
II.



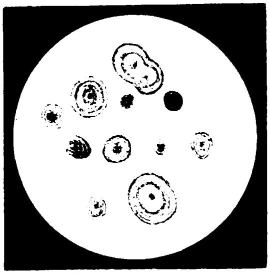
III.



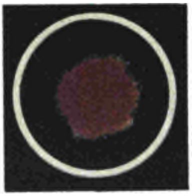
V.



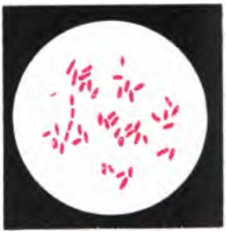
VI.



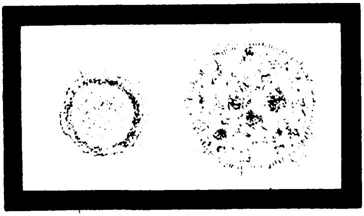
VII.



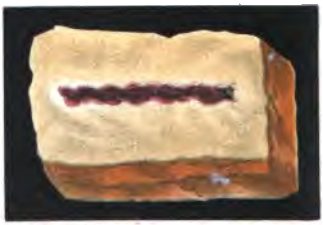
IV.



IX.



VIII.



X.

Lith. Anst. F. Reichhold, München.

PLATE 23.

Bacterium violaceum (J. Schröter). Lehm. and Neum.

I. *Gelatin stab culture,* ten days at ordinary temperature.

II. *Agar streak culture,* six days at ordinary temperature. The white borders after a longer time become likewise violet.

III. *Agar stab culture,* seven days at ordinary temperature. Stab canal.

IV. *Agar stab culture,* seven days at ordinary temperature. Surface growth.

V. *Agar plate culture,* four days at ordinary temperature. × 60. Superficial and deep colonies. Within the former is to be seen the original deeply located colony.

VI. *Agar plate culture,* eight days at ordinary temperature. Natural size. The colonies often also become dark violet.

VII. *Gelatin plate culture.* Natural size. Six days at ordinary temperature. The blue zones are not always so intensely colored.

VIII. *Gelatin plate culture,* six days at ordinary temperature. × 60. The smaller colony lies near the surface, the larger is on the surface.

IX. *Microscopic preparation.* × 700. From a five-days'-old agar culture.

X. *Potato culture,* six days at ordinary temperature.

XI. *Bacteria with flagella.* × 1000. Stained according to Löffler.

XII. *Bacteria with flagella.* × 1000. From a culture from Sweden.

XI.

XII.

PLATE 24.

Bacterium pyocyaneum (Flügge). Lehm. and Neum. (Green Pus.)

I. *Gelatin stab culture,* three days at 22°.

II. *Agar streak culture,* two days at 37°.

III. *Gelatin plate,* two days at 22°. × 60. Colonies located deeply and just below the surface, in young and older stages.

IV. *Gelatin plate,* five days at 22°. × 60. Part of a superficial colony.

V. *Gelatin plate,* two days at 22°. Natural size.

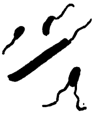
VI. *Agar plate,* two days at 37°. Natural size.

VII. *Agar plate,* two days at 37°. × 60. Above, superficial; below, deep colonies.

VIII. *Potato culture,* three days at 37°. Natural size.

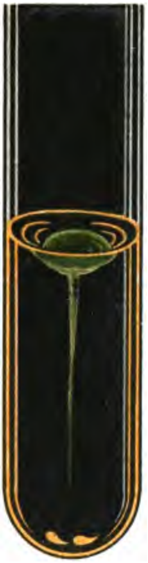
IX. *Microscopic preparation.* Pure culture from agar plate. × 800.

X. *Bacteria with one, more rarely two polar flagella.* × 1000. Stained according to Löffler.

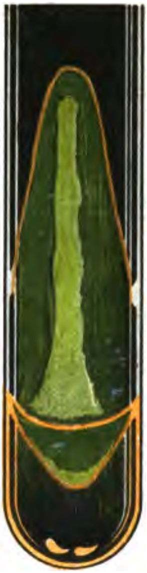


X.

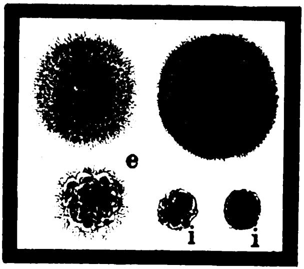
Tab. 24.



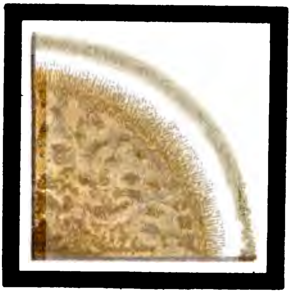
I.



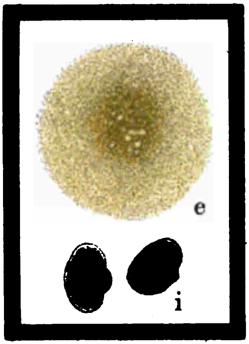
II.



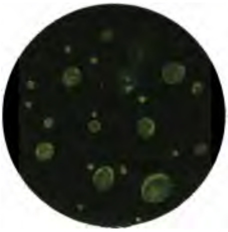
III.



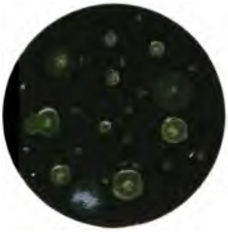
IV.



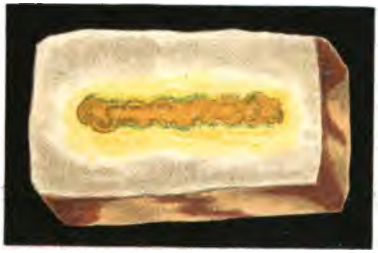
VII.



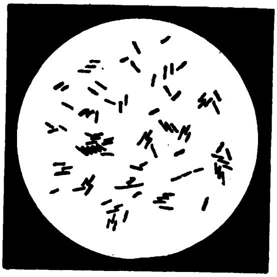
VI.



V.



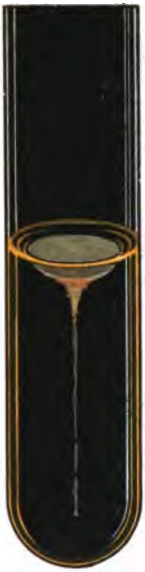
VIII.



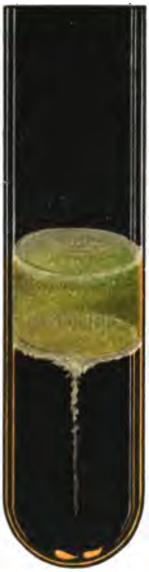
IX.

Lith. Anst. F. Reichhold, München.

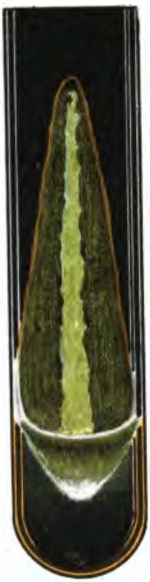
Tab. 25.



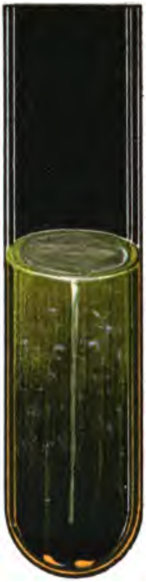
I.



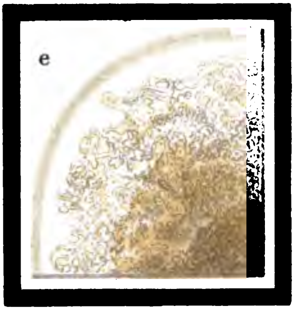
II.



III.

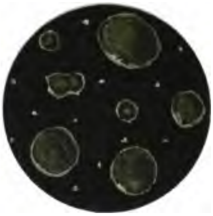


IV.

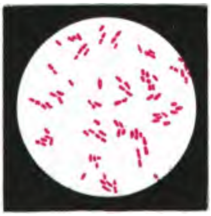


V.

VI.

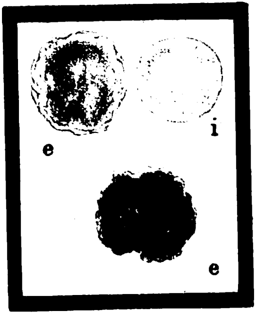


VII.



VIII.

IX.



X.

Lith. Anst. F. Reichhold, München.

PLATE 25.

Bacterium fluorescens. Lehm. and Neum. (Bacillus fluorescens liquefaciens. Flügge.)

I. *Gelatin stab culture,* two days at 22°.

II. *Gelatin stab culture,* eight days at 22°.

III. *Agar streak culture,* three days at 22°.

IV. *Agar stab culture,* four days at 22°.

V. *Gelatin plate,* two days at 22°. × 90. Part of a superficial colony.

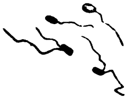
VI. *Agar plate,* twenty-four hours at 22°. × 60. (e) Superficial, (i) deep colonies.

VII. *Gelatin plate,* three days at 22°. Natural size.

VIII. *Microscopic preparation.* Pure culture from agar plate. × 800.

IX. *Potato culture,* four days at 22°. Natural size. Compare also Plate 18, IX; Plate 26, V.

X. *Bacteria with flagella,* usually one, more rarely two or more. × 1000. Stained according to Löffler.



X.

PLATE 26.

Bacterium putidum (Flügge). Lehm. and Neum. Bacterium fluorescens putidum Flügge. (Bacterium fluorescens non-liquefaciens Autor.)

I. *Gelatin stab culture*, three days at 22°.

II. *Gelatin plate*, twenty-four hours at 22°. × 90. Superf[illegible]. Compare Plate 14, VIII; Plate 19, III.

III. [illegible]*ate*, twenty-four hours at 22°. × 90. Dee[illegible]

[illegible] *Gela*[illegible]ur days at 22°. Natural size. Appearance [illegible]pon a dark background.

V. [illegible]*ato culture*, four days at 22°. Natural size. Compare also Plate 18, IX.

VI. *Microscopic preparation.* Pure culture from gelatin plate. × 800. Upon agar, threads are usually produced.

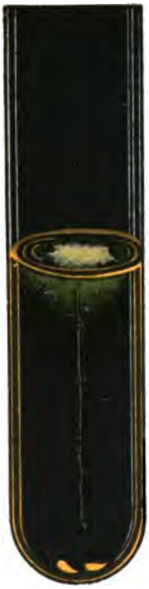
VII. *Agar plate*, eight days at 22°. Natural size. Appearance of the colonies upon a white background.

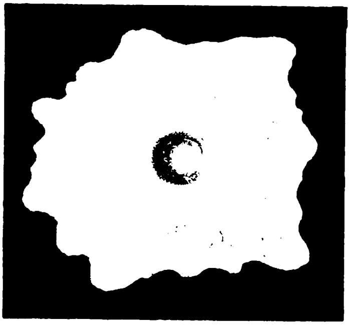
VIII. *Agar plate*, three days at 22°. × 60. (e) Superficial, (i) deep colonies.

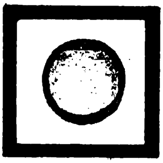
IX. *Bacteria with one, more rarely two flagella.* × 1000. Stained according to Löffler.

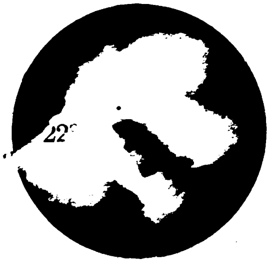
IX.

Tab. 26.

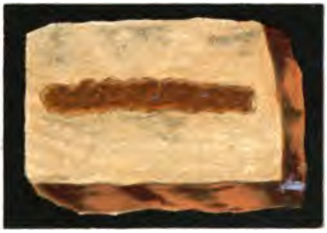

I.

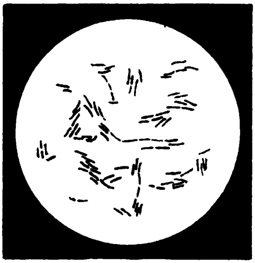

II.

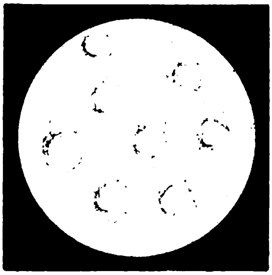

III.

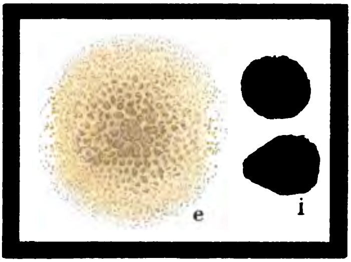


IV.


V.

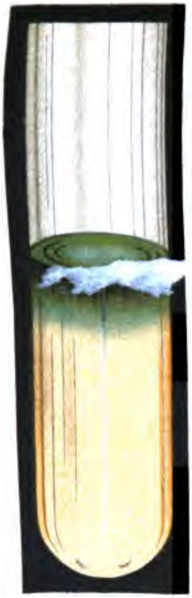

VI.

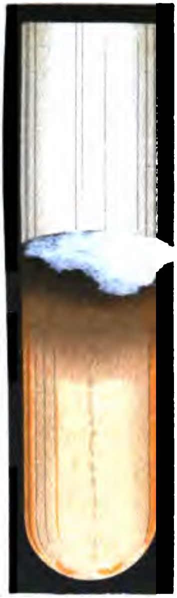

VII.

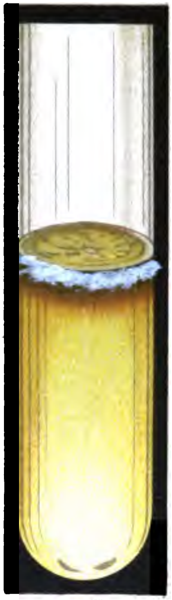


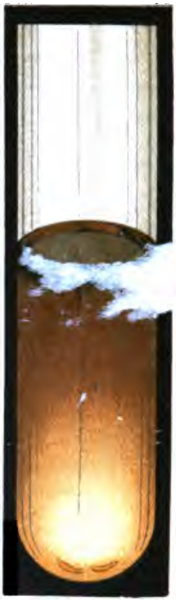
VIII.

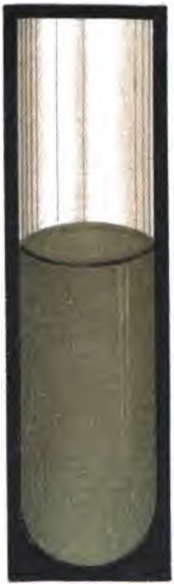
Tab. 27.

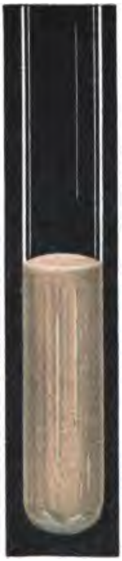

I.

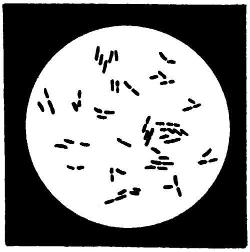

II.

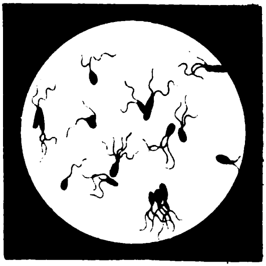

III.


IV.


V.


VI.


VII.


VIII.

Lith. Anst. F. Reichhold, München.

PLATE 27.

Bacterium syncyaneum (Ehrenb.). Lehm. and Neum.
(Bac. cyanogenes Flügge; Blue Milk.)

I–III. *Gelatin stab cultures,* from six to ten days at 22°. There occur still other shades of color.

IV. *Agar stab culture,* ten days at 37°.

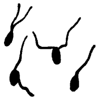
V. *Bouillon culture,* four days at 37°.

VI. *Milk culture,* three days at 37°. Inoculated upon unsterilized milk.

VII. *Microscopic preparation.* Pure culture from agar plate. × 800.

VIII. *Microscopic preparation.* Pure culture. Flagella staining with Löffler's mordant. × 800.

IX. *Bacteria with flagella,* one or more at one pole. × 1000. Stained according to Löffler.



IX.

PLATE 28.

Bacterium syncyaneum (Ehrenb.). Lehm. and Neum.
(Bac. cyanogenes Flügge; Blue Milk.)

I–III. *Potato cultures,* from three to ten days at 22°. Many varieties of potato inoculated with the same culture. The differences in colors may be still more numerous.

IV. *Agar plate,* three days at 22°. Natural size.

V. *Agar plate,* three days at 22°. × 60. To the right, deep; to the left, superficial colonies.

VI. *Gelatin plate,* three days at 22°. Natural size.

VII. *Gelatin plate,* eight days at 22°. Natural size. Appearance of colonies upon a white background.

VIII. *Gelatin plate,* three days at 22°. × 60. Above, superficial; below, deep colonies.

I.

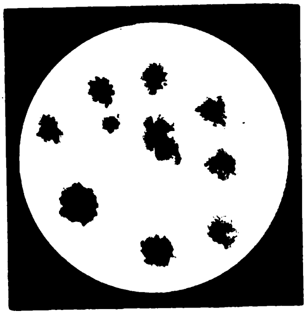
II.

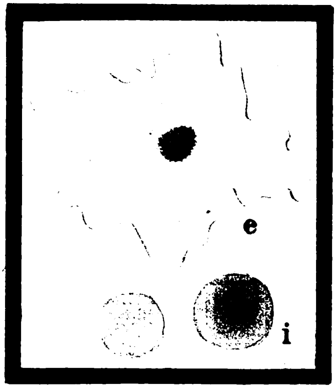
III.

IV.

V.

VI.


VII.



VIII.

Nothnagel's Practice of Medicine

Edited by

ALFRED STENGEL, M.D.

Professor of Clinical Medicine, University of Pennsylvania;
Visiting Physician to the Pennsylvania Hospital

IT is universally acknowledged that the Germans lead the world in Internal Medicine; and of all the German works on this subject, Nothnagel's "Specielle Pathologie und Therapie" is conceded by scholars to be without question the **best Practice of Medicine in existence.** In view of these facts, Messrs. W. B. Saunders & Company have arranged with the publishers to issue at once **an authorized edition** of this great practice of medicine in English.

The work will be translated by men possessing thorough knowledge of both English and German, and **each volume will be edited by a prominent specialist** on the subject to which it is devoted. It will thus be brought thoroughly up to date, and the American edition will be more than a mere translation; for, in addition to the matter contained in the original, it will represent the **very latest views of the leading American and English specialists** in the various departments of Internal Medicine.

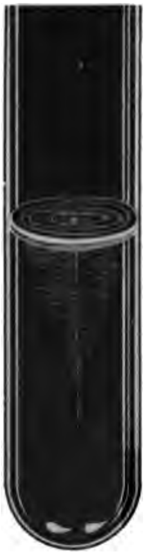
For the present a set of ten volumes, representing the most practical part of this excellent work, and selected with especial thought of the **needs of the practising physician,** will be published. These volumes contain the real essence of the entire work, and the purchaser will therefore obtain at less than half the cost the cream of the original. Later the special and more strictly scientific volumes will be offered from time to time.

This American edition of Nothnagel's Practice will, without question, form the **greatest practice of medicine ever produced,** and the publishers feel confident that it will meet with general favor in the medical profession.

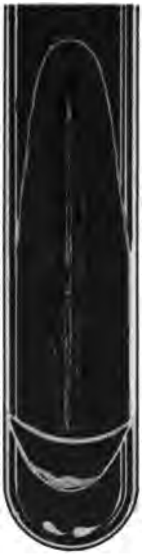
Sent post-paid on receipt of price.

W. B. SAUNDERS & CO., Publishers,
925 Walnut St., Philadelphia.

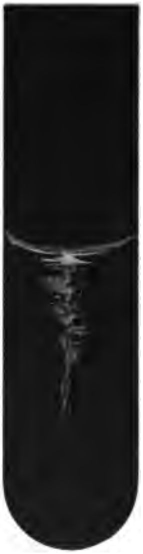
Tab. 29.



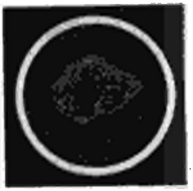
I.



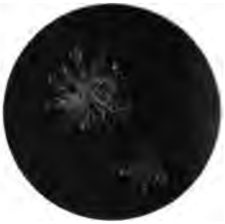
II.



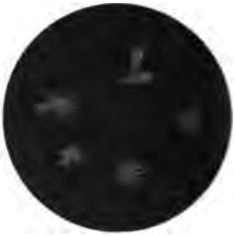
III.



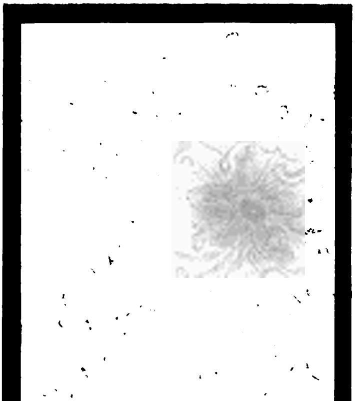
IV.



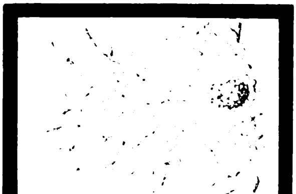
V.



VI.



VIII.



VII.

Lith. Anst. F. Reichhold, München.

PLATE 29.

Bacterium Zopfii. Kurth.

I. *Gelatin stab culture,* six days at 22°.

II. *Agar streak culture,* thirty-six hours at 37°. It is actually a grayish color and transparent.

III. *Agar stab culture,* six days at 22°. Stab.

IV. *Agar stab culture,* six days at 22°. Surface growth.

V. *Gelatin plate,* seven days at 22°. Natural size.

VI. *Gelatin plate,* thirty-six hours at 22°. Natural size.

VII. *Gelatin plate,* twenty-four hours at 22°. × 90. Thread-like portion of the deep colony.

VIII. *Gelatin plate,* twenty-four hours at 22°. × 60. Superficial colony. Compare Plate 31, VII; Plate 32, VIII.

PLATE 30.

Bacterium Zopfii. Kurth.

I. *Gelatin plate,* eight days at 22°. × 90. Peripheral portion of a colony.

II. *Microscopic preparation.* × 1000. Pure culture, from agar plate, stained with fuchsin.

III. *Agar plate,* four days at 22°. Deep colony.

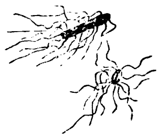
IV. *Agar plate,* twenty-four hours at 37°. Natural size.

V. *Agar plate,* twelve hours at 37°. Deep and superficial colony.

VI. *Agar plate,* twenty-four hours at 37°. × 60. Superficial colony, surrounded by innumerable bacteria swarming outward.

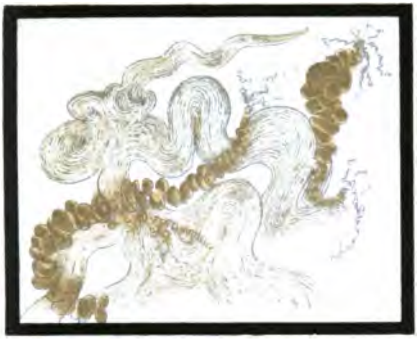
VII. *Gelatin plate,* eight days at 22°. Sausage-shaped forms of the deep colony.

IX. *Bacteria with numerous flagella.* × 1000. Stained according to Löffler.

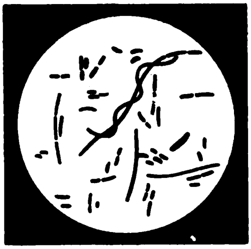


IX.

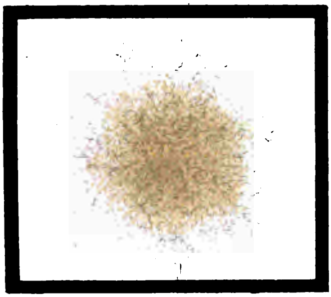
Tab. 30.



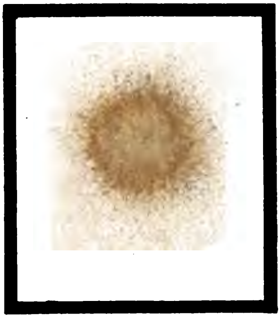
I.



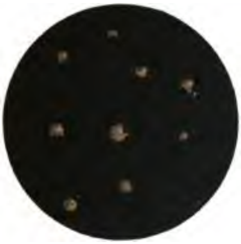
II.



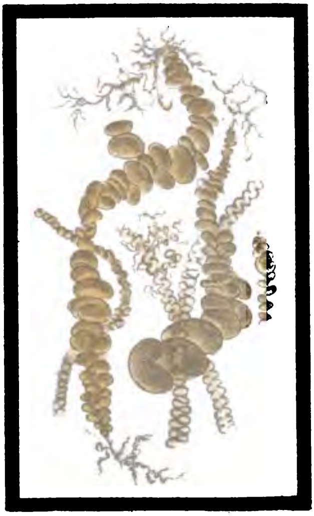
III.



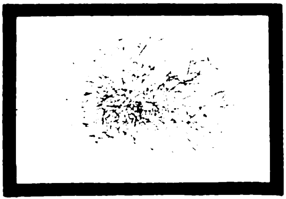
VI.



IV.



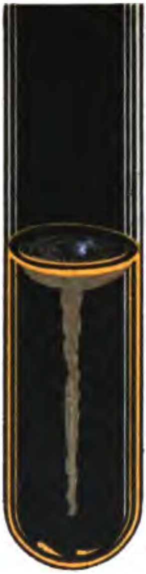
VII.



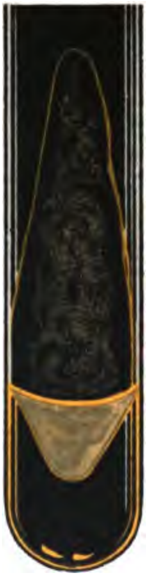
V.

Lith. Anst. F. Reichhold, München.

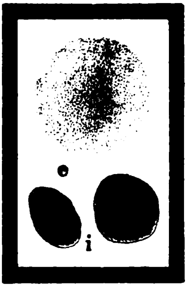
Tab. 31.



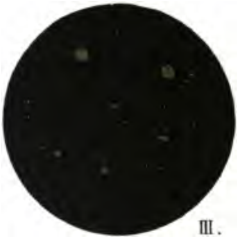
I.



II.

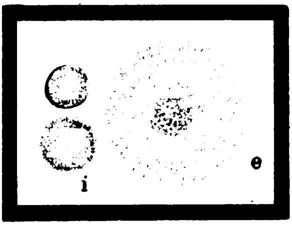


IV.

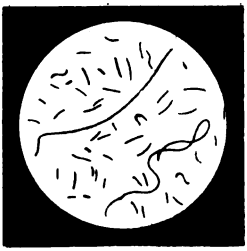


III.

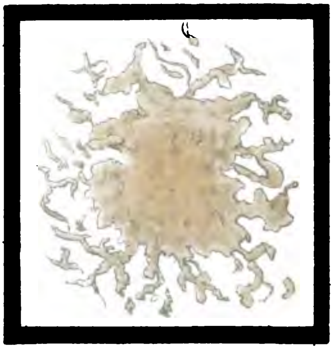
V.



VI.



VIII.



VII.

Lith. Anst F. Reichhold, München

PLATE 31.

Bacterium vulgare (Hauser). Lehm. and Neum. (Proteus vulgaris Hauser.)

I. *Gelatin stab culture,* twenty-four hours at 22°.

II. *Agar streak culture,* thirty-six hours at 22°.

III. *Agar plate,* thirty-six hours at 22°. Natural size.

IV. *Agar plate,* four days at 22°. × 60. Above, superficial; below, deep colonies.

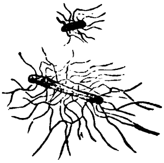
V. *Gelatin plate,* thirty-six hours at 22°. Natural size.

VI. *Gelatin plate,* thirty-six hours at 22°. × 60. To the right, superficial; to the left, deep colonies. The lower, approaching the surface, begins to liquefy.

VII. *Gelatin plate,* three days at 22°. × 60. Deep colony. Zooglea form, similar to the Bact. Zopfii.

VIII. *Microscopic preparation.* Pure culture upon agar. × 800. Stained with fuchsin.

IX. Bacteria with very numerous flagella. × 1000.



IX.

PLATE 32.

Bacterium vulgare β mirabilis (Hauser). L. and N.
(Proteus mirabilis Hauser.)

I. *Agar stab culture,* two days at 22°. Stab canal.

II. *Agar stab culture,* two days at 22°. Surface growth.

III. *Gelatin stab culture,* six days at 22°.

IV. *Agar streak culture,* two days at 22°.

V. *Agar plate,* seven days at 22°. Natural size.

VI. *Agar plate,* seven days at 22°. × 60. Above, superficial; below, deep colony.

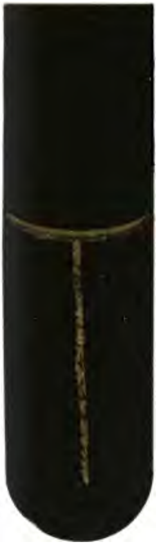
VII. *Gelatin plate,* two days at 22°. × 60. Deep colonies.

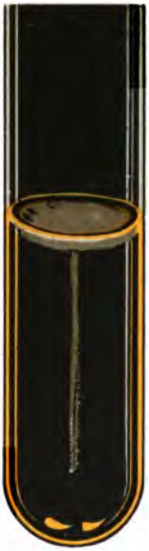
VIII. *Gelatin plate,* two days at 22°. × 60. Superficial colony.

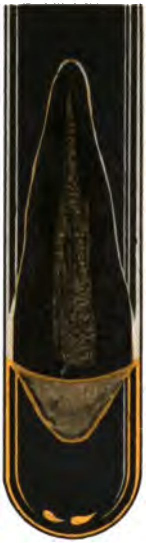
IX. *Potato culture,* eight days at 22°. Natural size.

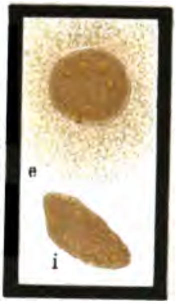
X. *Microscopic preparation.* Pure culture on agar two days old. × 800.

Tab. 32.

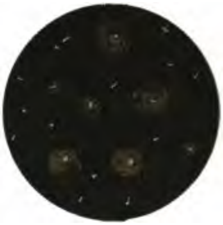

I.

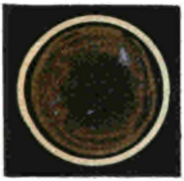

III.

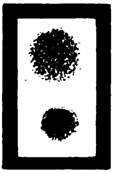

IV.

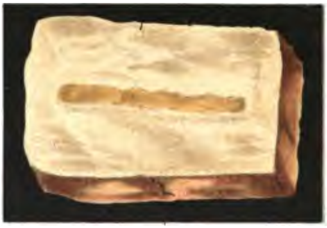


VI.

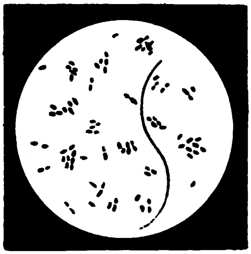

V.


II.


VII.

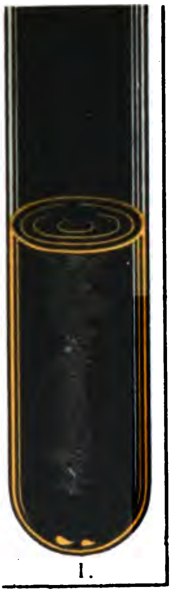

IX.

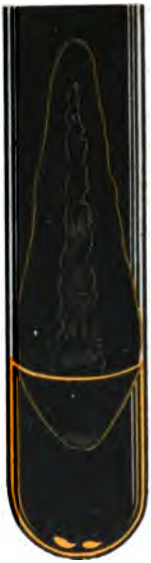
VIII.

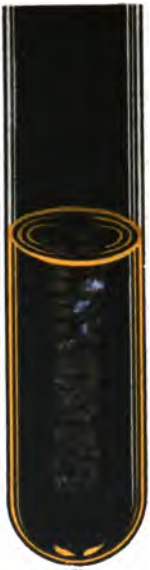

X.

Lith. Anst F. Reichhold, München.

Tab. 33.

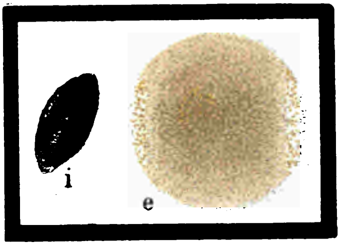

I.


II.


III.

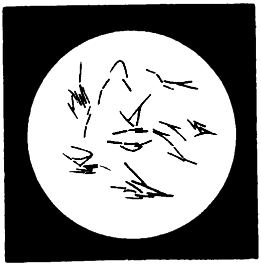
IV.

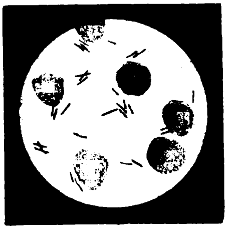
V.



VII.

VI.


VIII.


IX.

Lith. Anst. F. Reichhold München.

PLATE 33.

Bacterium erysipelatos suum. Migula.

(Swine Erysipelas.)

I. *Gelatin stab culture,* five days at 22°.

Bacterium murisepticum. Migula. (Mouse Septicemia.)

II. *Agar streak culture,* four days at 22°.

III. *Gelatin stab culture,* four days at 22°.

IV. *Agar stab culture,* four days at 22°. Surface growth.

V. *Gelatin plate,* four days at 22°. Natural size.

VI. *Gelatin plate,* four days at 22°. × 60. Superficial colony.

VII. *Agar plate,* four days at 22°. × 60. To the right, superficial; to the left, deep colony.

VIII. *Microscopic preparation.* Pure culture on agar two days old. × 800.

IX. *Microscopic preparation.* Smear preparation from the blood of a mouse's spleen. × 800.

PLATE 34.

Bacillus anthracis. F. Cohn and R. Koch.

(Splenic Fever.)

I–V. *Gelatin stab cultures,* three days at 22°. Figures I and II are typical; the others, atypical.

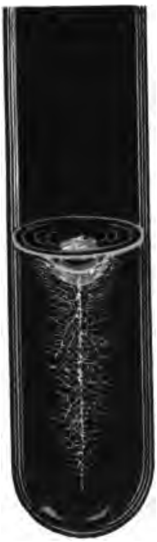
VI. *Agar streak culture,* two days at 22°.

VII. *Agar stab culture,* five days at 22°. Stab canal.

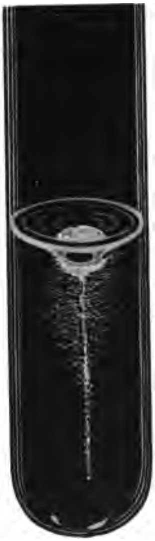
VIII. *Agar stab culture,* five days at 22°. Surface growth, which is atypical.

IX. *Agar stab culture,* five days at 22°. Surface growth typical; often also is homogeneous whitish-gray.

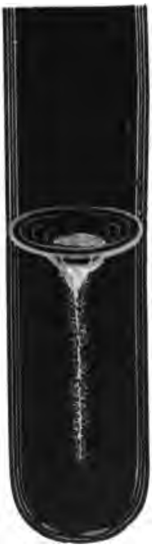
Tab. 34.



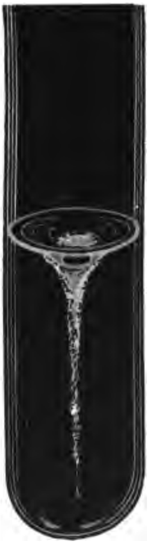
I.



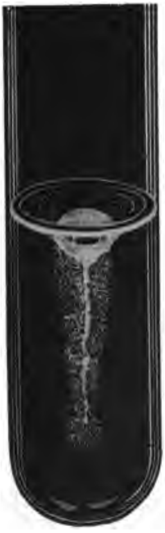
II.



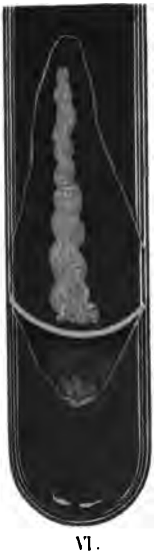
III.



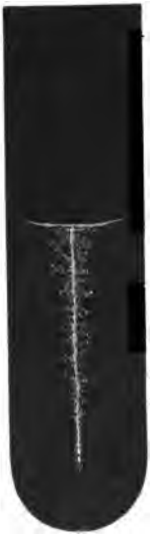
IV.



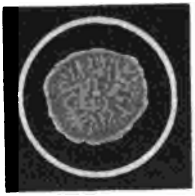
V.



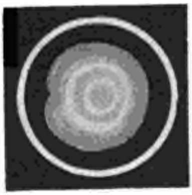
VI.



VII.



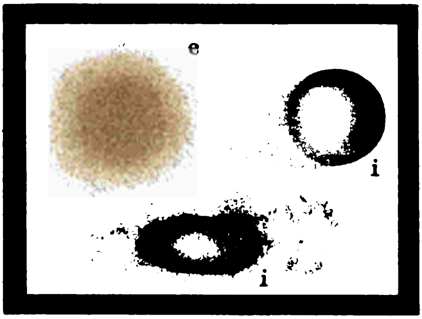
VIII.



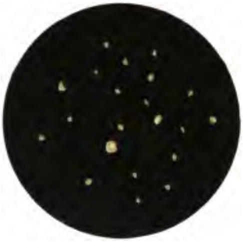
IX.

Lith. Anst. F. Reichhold, München.

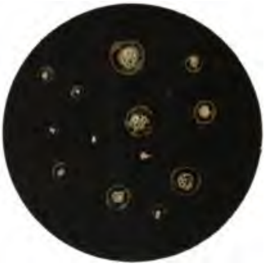
Tab. 35.



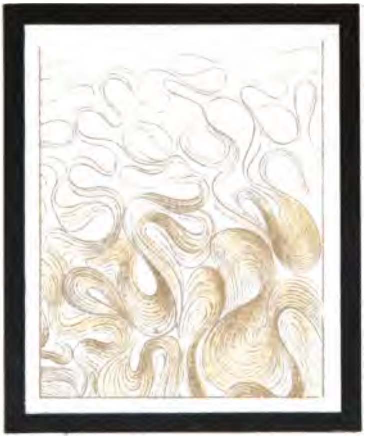
I.



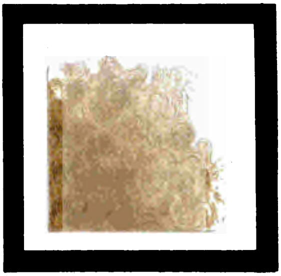
II.



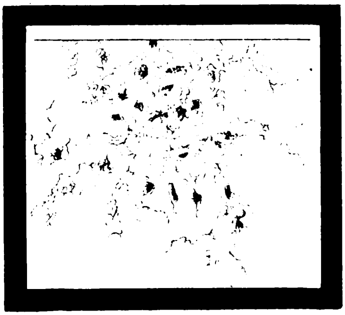
V.



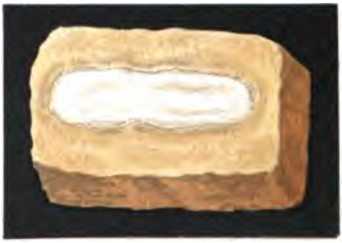
III.



VI.



IV.



VII.

Lith. Anst. F. Reichhold, München.

PLATE 35.

Bacillus anthracis. F. Cohn and R. Koch.

(Splenic Fever.)

I. *Agar plate,* four days at 22°. × 60. To the left, a superficial colony; to the right, a colony directly below the surface; below, a deep colony.

II. *Agar plate,* four days at 22°. Natural size.

III. *Agar plate,* thirty-six hours at 37°. × 150. Surface growth. Peripheral part of a streak culture.

IV. *Agar plate,* thirty-six hours at 37°. × 150. Deep colony.

V. *Gelatin plate,* three days at 22°. Natural size.

VI. *Gelatin plate,* three days at 22°. × 60. Superficial colony at the time of sinking in.

VII. *Potato culture,* six days at 22°. Natural size.

PLATE 36.

Bacillus anthracis. F. Cohn and R. Koch.

(Splenic Fever.)

I. *Smear preparation from the blood of the spleen of a mouse.* × 1000.

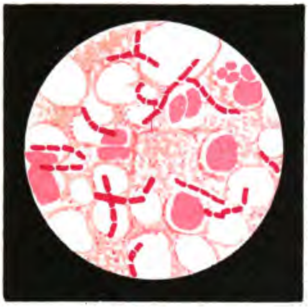
II. *Contact preparation of an agar plate culture,* one day at 22°. × 1000.

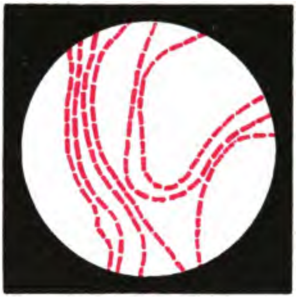
III. *Unstained preparation in hanging drop from a bouillon culture,* thirty-six hours at 37°. × 1000. Spores begin already to escape.

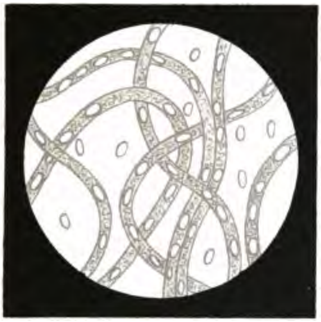
IV. *Anthrax threads from agar,* thirty-six hours at 37°. × 1000. Stained with Ziehl's solution; spores red, bacilli blue.

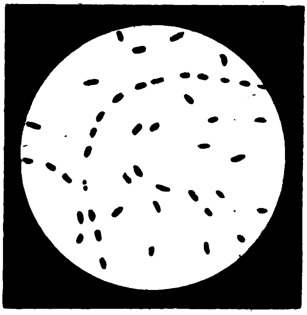
V. *Involution forms.* Five-weeks'-old agar stab culture, stained with fuchsin. × 1000.

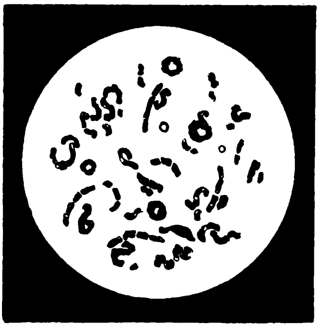
VI. *Unstained preparation in hanging drop from a bouillon culture,* eight hours at 37°. × 1000. Beginning of spore-formation.

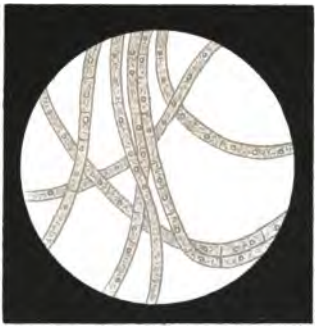

I.


II.


III.

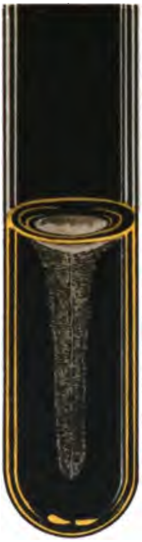

IV.

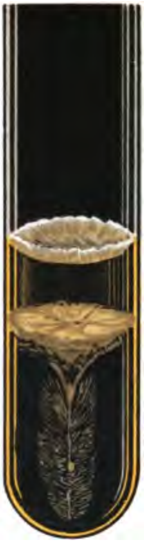

V.

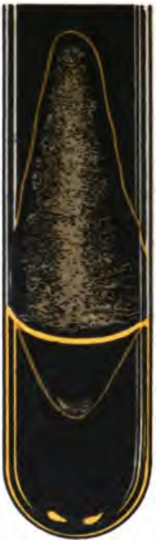

VI.

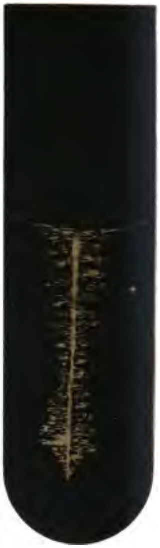
Lith. Anst. F. Reichhold, München.

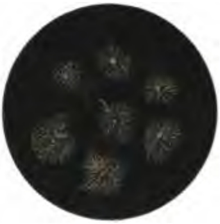
Tab. 37.

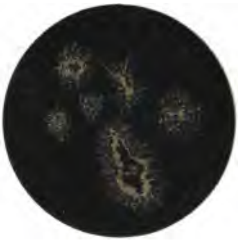

I.

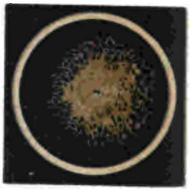

II.

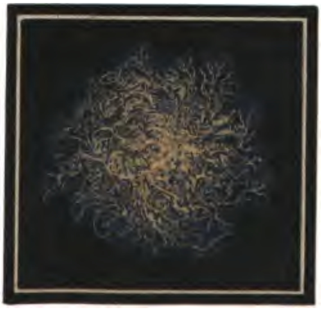

III.

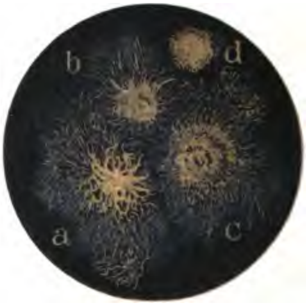

IV.


VI.


VII.


V.


IX.



VIII.

Lith. Anst. F. Reichhold, München.

PLATE 37.

Bacillus mycoides. Flügge. (Root Bacillus.)

I. *Gelatin stab culture,* four days at 22°.
II. *Gelatin stab culture,* fourteen days at 22°.
III. *Agar streak culture,* two days at 22°.
IV. *Agar stab culture,* eight days at 22°. Stab canal.
V. *Agar stab culture,* eight days at 22°. Surface growth.
VI. *Gelatin plate,* one day at 22°. Natural size.
VII. *Agar plate,* one day at 22°. Natural size.
VIII. *Agar plate,* four days at 22°. Natural size.
IX. *Gelatin plate,* four days at 22°. Natural size. The colony is at the point of sinking in.

PLATE 38.

Bacillus mycoides. Flügge. (Root Bacillus.)

I. *Agar plate,* one day at 22°. × 20. Superficial and deep colony.

II. *Potato culture,* seven days at 22°. Natural size.

III. *Microscopic preparation.* Pure culture, twenty-four hours old, on agar. × 1000. Stained with fuchsin. A few bacilli contain spores.

IV. *Agar plate,* one day at 22°. × 100. Part of a superficial colony.

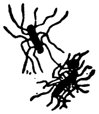
Bacillus butyricus. Hüppe. (Butyric Acid Bacillus.)

V. *Potato culture,* three days at 22°.

VI. *Gelatin plate,* one day at 22°. × 60. Above, superficial; below, deep colonies.

VII. *Gelatin plate,* thirty-six hours at 22°. × 60. Part of a superficial colony.

VII A. Flagella preparation. × 1000. Stained according to Löffler.



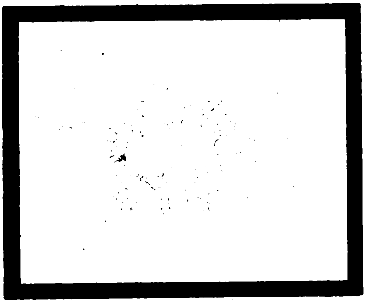
VII A.

Bacillus vulgatus. Migula. (B. mesentericus vulgatus Flügge. Potato Bacillus.)

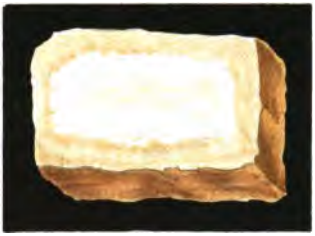
VIII. *Potato culture,* five days at 22°.

IX. *Potato culture,* five days at 22°. Natural size. Both forms of growth occur.

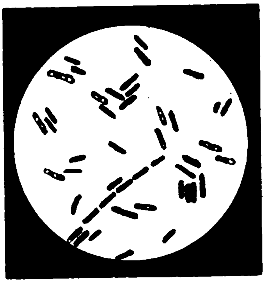
Tab. 38.



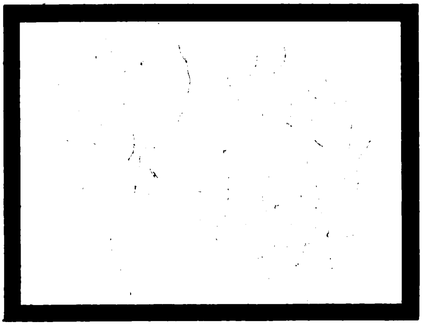
I.



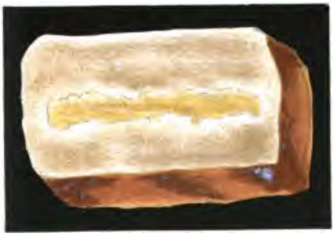
II.



III.



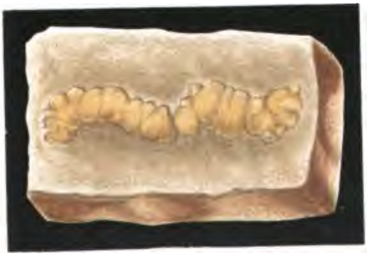
IV.



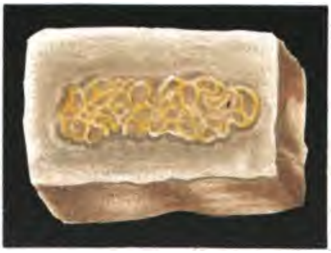
V.

VI.

VII.

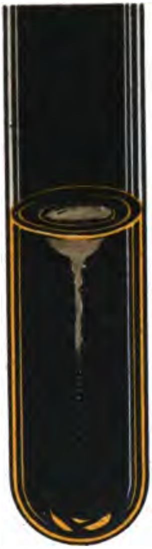


VIII.

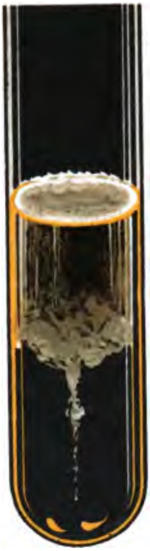


IX.

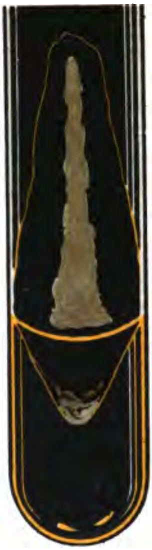
Tab. 39.



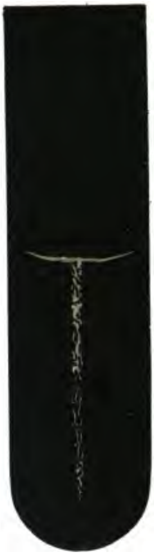
I.



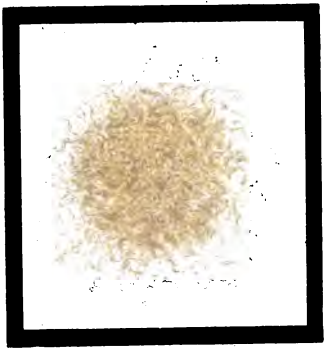
II.



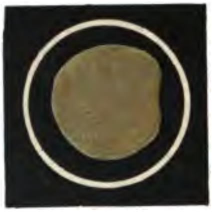
III.



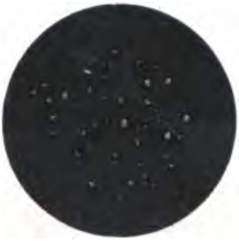
IV.



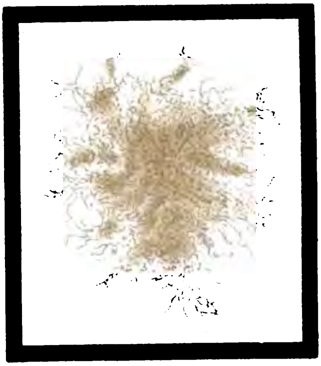
VI.



V.



VIII.



VII.

PLATE 39.

Bacillus subtilis (Ehrenberg). F. Cohn.

(Hay Bacillus.)

I. *Gelatin stab culture,* thirty-six hours at 22°.

II. *Gelatin stab culture,* eight days at 22°.

III. *Agar streak culture,* two days at 37°.

IV. *Agar stab culture,* two days at 37°. Stab canal.

V. *Agar stab culture,* two days at 37°. Surface growth.

VI. *Agar plate,* twelve hours at 37°. × 60. Superficial colony.

VII. *Agar plate,* twelve hours at 37°. × 60. Deep colony.

VIII. *Agar plate,* twelve hours at 37°. Natural size.

PLATE 40.

Bacillus subtilis (Ehrenberg). **F. Cohn.**

(Hay Bacillus.)

I. *Potato culture,* seven days at 22°.

II. *Gelatin plate,* two days at 22°. × 60. Above and to the left, a deep colony; below this, one lying directly at the surface; to the right, a superficial colony.

III. *Gelatin plate,* two days at 22°. Natural size.

IV. *Gelatin plate,* two days at 22°. × 10.

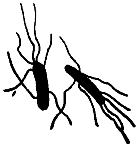
V. *Microscopic preparation.* × 1000. From an agar culture three hours old at 37°, stained with fuchsin.

VI. *Microscopic preparation.* Bacilli with flagella, after Fischer. Very highly magnified.

VII. *Microscopic preparation.* × 1000. From an agar culture, ten days at 22°. Contains spores. Unstained.

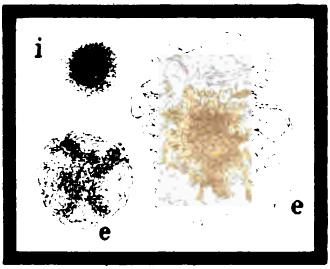
VIII. *Microscopic preparation.* × 700. From an agar culture, ten days at 22°. Double stain with carbol-fuchsin and methylene-blue.

IX. Bacilli with numerous flagella. × 1000. Stained according to Löffler.

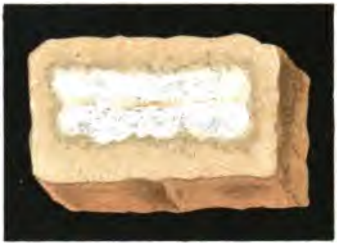


IX.

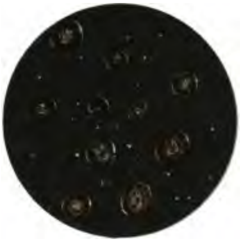
Tab. 40.



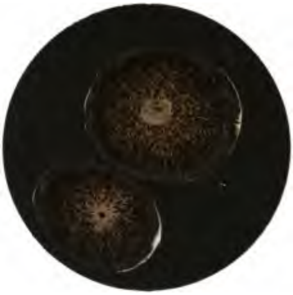
II.



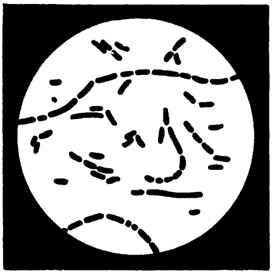
I.



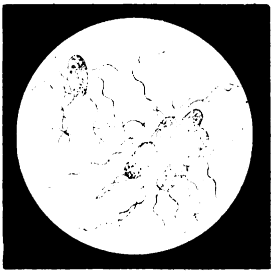
III.



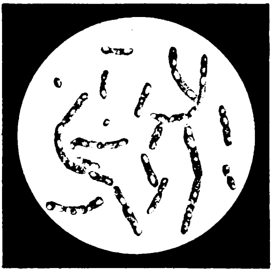
IV.



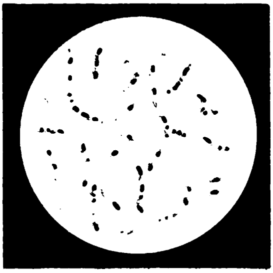
V.



VI.



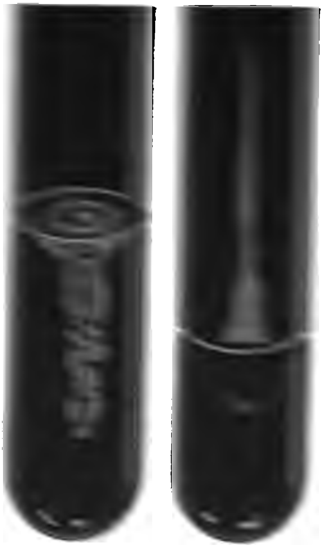
VII.



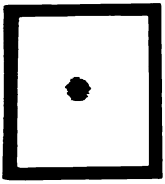
VIII.

Lith. Anst. F. Reichhold, München.

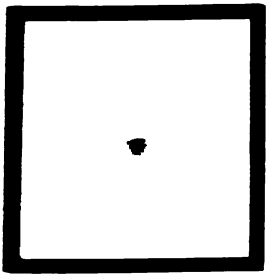
[illegible] I.

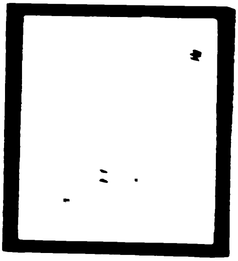


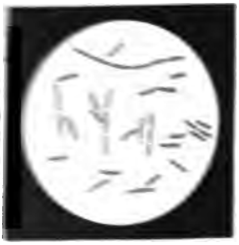
I.



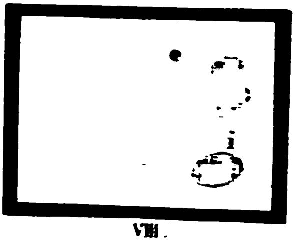
V



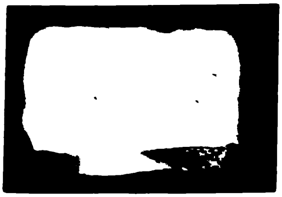




X



VIII.



IX.

[illegible]

PLATE 41.

Bacillus megatherium. De Bary.

I. *Gelatin stab culture,* twenty-four hours at 22°.

II. *Agar streak culture,* three days at 22°.

III. *Gelatin plate,* thirty-six hours at 22°. Natural size.

IV. *Gelatin plate,* thirty-six hours at 22°. × 60. Deep colony.

V. *Gelatin plate,* thirty-six hours at 22°. × 60. Superficial colony.

VI. *Agar plate,* four days at 22°. Natural size.

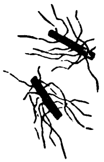
VII. *Agar plate,* one day at 22°. × 60. To the right, superficial; to the left, deep colonies.

VIII. *Agar plate,* four days at 22°. × 60. To the right, deep; to the left, superficial colonies.

IX. *Potato culture,* five days at 22°. Natural size.

X. *Microscopic preparation.* Pure culture on agar. × 800.

XI. *Bacilli with numerous flagella.* × 1000. Stained according to Löffler.



XI.

PLATE 42.

Bacillus vulgatus. Migula. (B. mesentericus vulgatus Flügge. Potato Bacillus.)

I. *Gelatin stab culture,* ten days at 22°.

II. *Agar streak culture,* ten days at 22°.

III. *Agar stab culture,* six days at 22°. Surface growth.

IV. *Agar plate,* six days at 22°. Natural size.

V. *Agar plate,* six days at 22°. × 60. Deep colonies.

VI. *Agar plate,* six days at 22°. × 60. Superficial colony.

VII. *Gelatin plate,* eight days at 22°. Natural size.

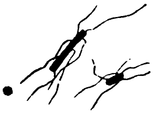
VIII. *Gelatin plate,* eight days at 22°. × 60. Part of a superficial colony.

IX. *Gelatin plate,* eight days at 22°. × 150. Part of a superficial colony.

X. *Potato culture,* five days at 22°. Natural size.

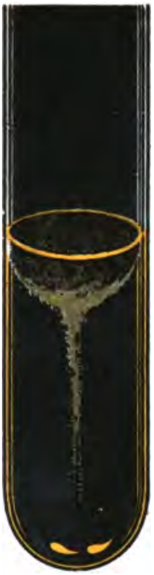
XI. *Microscopic preparation.* Pure culture from agar, one day old. × 800. Stained with fuchsin.

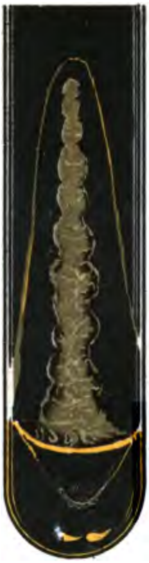
XII. *Bacilli with numerous flagella.* × 1000. Stained according to Löffler.

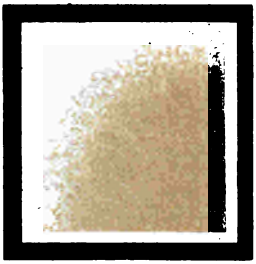


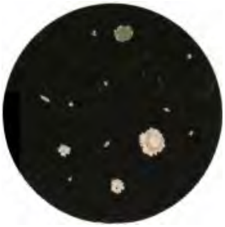
XII.

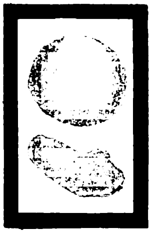
Tab. 42.

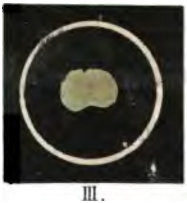

I.

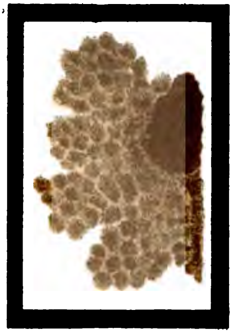

II.

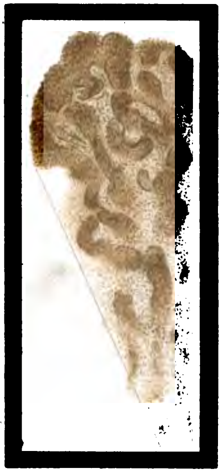

VI.

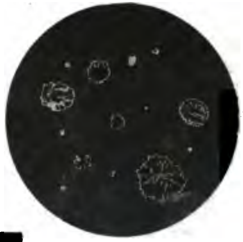

IV.

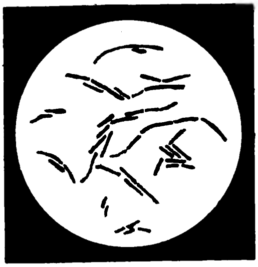

V.

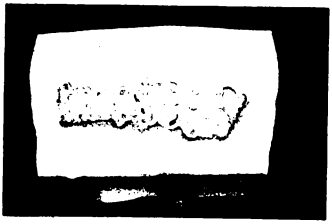

III.


VIII.

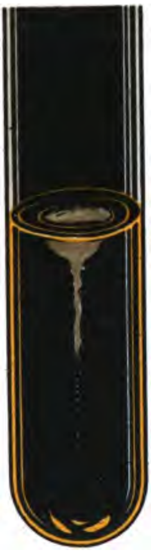

IX.


VII.

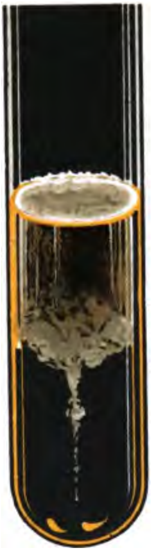

XI.


X.

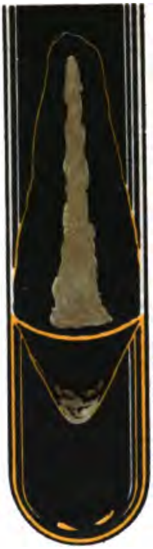
Tab. 39.



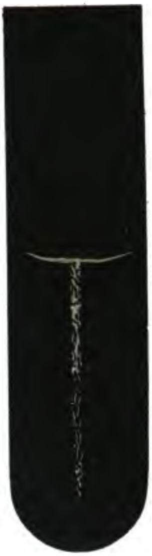
I.



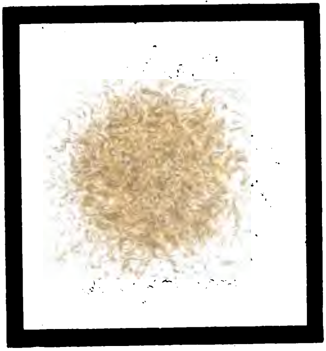
II.



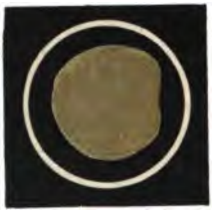
III.



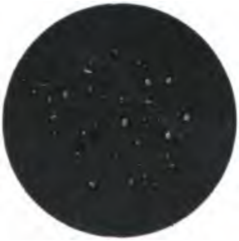
IV.



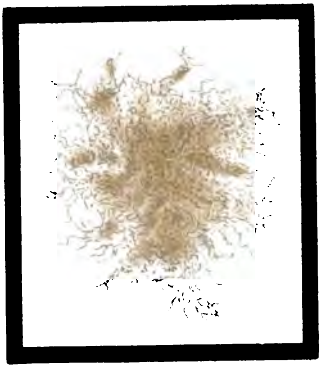
VI.



V.



VIII.



VII.

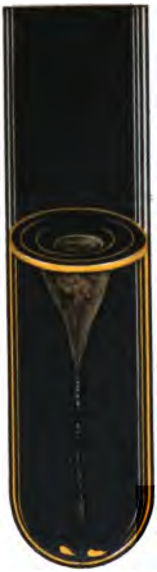
PLATE 39.

Bacillus subtilis (Ehrenberg). F. Cohn.

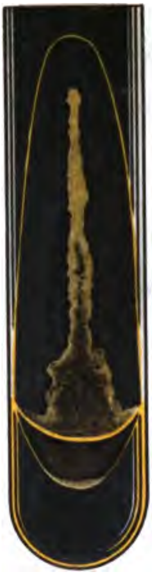
(Hay Bacillus.)

I. *Gelatin stab culture,* thirty-six hours at 22°.
II. *Gelatin stab culture,* eight days at 22°.
III. *Agar streak culture,* two days at 37°.
IV. *Agar stab culture,* two days at 37°. Stab canal.
V. *Agar stab culture,* two days at 37°. Surface growth.
VI. *Agar plate,* twelve hours at 37°. × 60. Superficial colony.
VII. *Agar plate,* twelve hours at 37°. × 60. Deep colony.
VIII. *Agar plate,* twelve hours at 37°. Natural size.

Tab. 43.

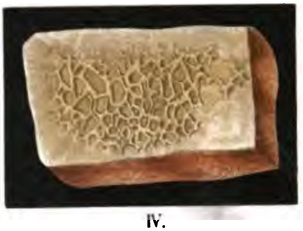


I.

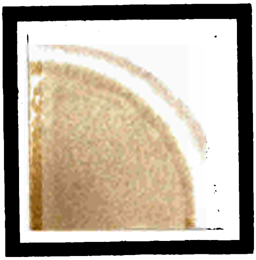


II.

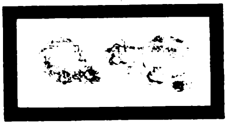
III.



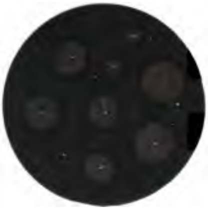
IV.



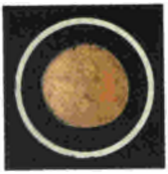
IX.



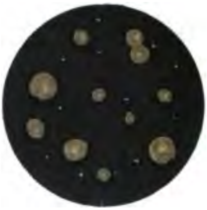
VIII.



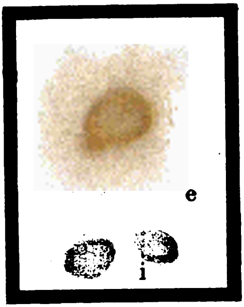
V.



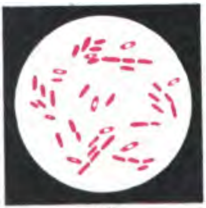
VI.



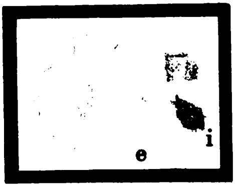
X.



VII.



XII.



XI.

Lith. Anst F. Reichhold. München.

PLATE 43.

Bacillus mesentericus. Lehm. and Neum. (B. mesentericus fuscus Flügge.)

I. *Gelatin stab culture,* two days at 22°.

II. *Agar streak culture,* three days at 22°.

III. *Potato culture,* one day at 22°. Natural size.

IV. *Potato culture,* five days at 22°. Natural size.

V. *Agar plate,* two days at 22°. Natural size.

VI. *Agar stab culture,* four days at 22°. Surface growth.

VII. *Agar plate,* two days at 22°. × 60. Above, superficial; below, deep colonies.

VIII. *Gelatin plate,* thirty-six hours at 22°. × 60. Deep colonies.

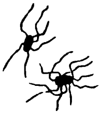
IX. *Gelatin plate,* thirty-six hours at 22°. × 60. Superficial colony.

X. *Gelatin plate,* two days at 22°. Natural size.

XI. *Gelatin plate,* one day at 22°. × 60. To the right, deep; to the left, superficial colonies.

XII. *Microscopic preparation.* × 800. From a pure culture on agar two days old. Stained with fuchsin. Some bacilli contain spores.

XIII. *Bacilli with numerous flagella.* × 1000. Stained by Löffler's method.



XIII.

PLATE 44.

Bacillus tetani. Nicolaier. (Tetanus Bacillus.)

I. *Sugar-agar stab culture,* three days at 37°.

II. *Sugar-gelatin stab culture,* six days at 22°.

III. *Sugar-gelatin plate,* four days at 22°. Grown without air.

IV. *Sugar-gelatin plate,* four days at 22°. × 60. Natural size. Superficial and deep colonies. Grown without air.

V. *Sugar-agar plate,* four days at 37°. Natural size. Grown without air.

VI. *Sugar-agar plate,* four days at 37°. × 60. Superficial and deep colonies. Grown without air.

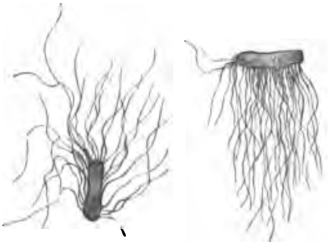
VII. *Microscopic preparation.* Pure culture on sugar-agar, three days at 37°. × 1000. Bacilli with spores. Double staining according to Ziehl.

VIII. *Microscopic preparation.* Pure culture on sugar-agar, two days at 37°. × 1000. Some bacilli contain spores. Stained with fuchsin.

IX. *Microscopic preparation.* Pure culture on sugar-agar, twenty-four hours at 37°. × 1000. Extremely long threads with faintly stained intervals.

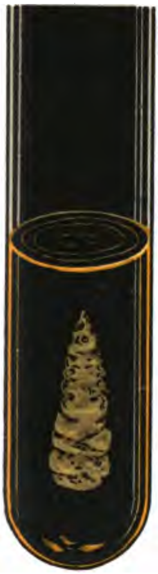
X. *Microscopic preparation.* Pure culture on sugar-agar, six days at 37°. × 1000. Stained with fuchsin. Long threads and chains of spores with faintly stained intervals.

XI. *Microscopic preparation.* Flagella staining. Highly magnified.

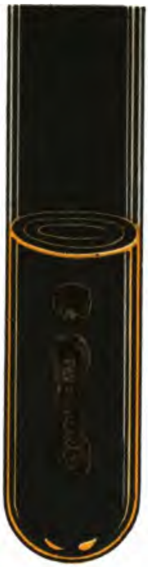


XI.

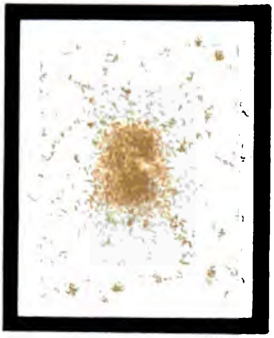
Tab. 44.



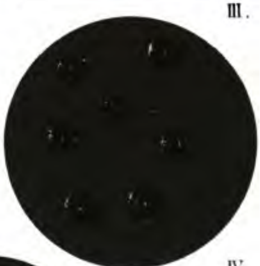
I.



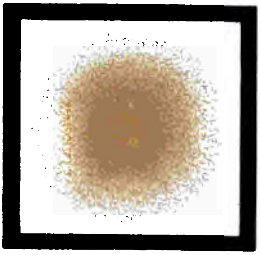
II.



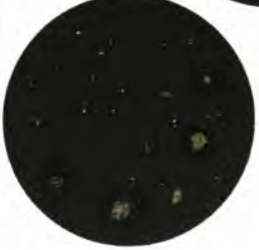
III.



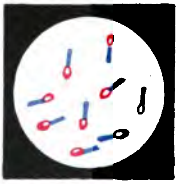
IV.



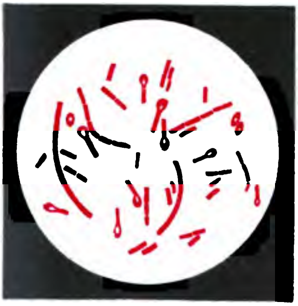
VI.



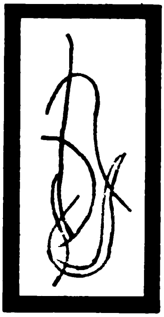
V.



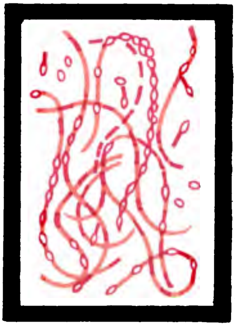
VII.



VIII.



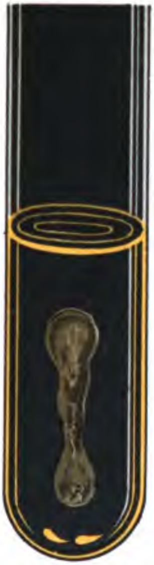
IX.

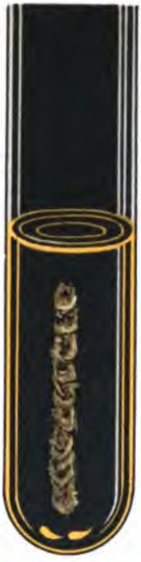


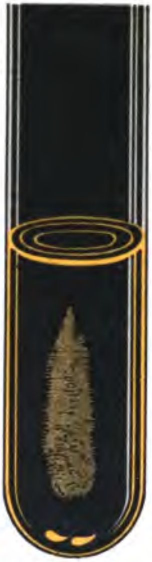
X.

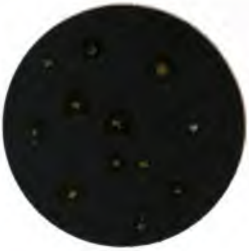
Lith. Anst. F. Reichhold. München.

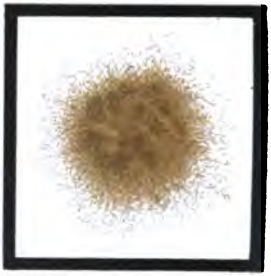
Tab. 45.

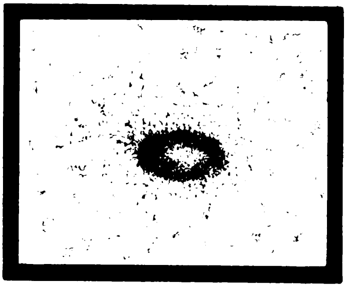

I.

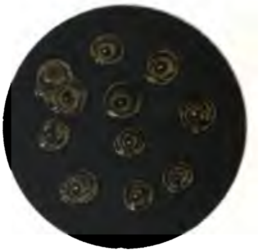

II.

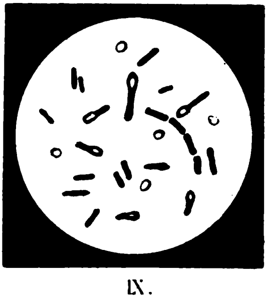

III.


IV.


V.


VII.


VI.


IX.

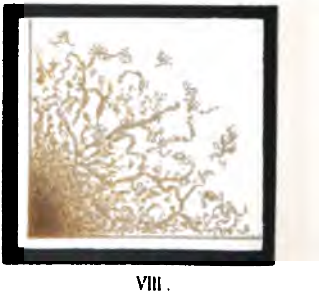

VIII.

PLATE 45.

Bacillus Chauvœi. Macé. (Symptomatic Anthrax.)

I. *Sugar-gelatin stab culture,* six days at 22°.

II. *Sugar-agar stab culture,* three days at 37°.

III. *Sugar-agar stab culture,* three weeks at 37°.

IV. *Sugar-agar plate,* four days at 37°. Natural size. Grown as anaerobe.

V. *Sugar-agar plate,* four days at 37°. × 60. Superficial and deep colony. Grown as anaerobe.

VI. *Sugar-gelatin plate,* four days at 22°. Natural size. Grown as anaerobe.

VII. *Sugar-gelatin plate,* four days at 22°. × 60. Deep colony, grown as anaerobe.

VIII. *Sugar-gelatin plate,* two days at 22°. × 150. Part of a superficial colony. Grown as anaerobe.

IX. *Microscopic preparation.* Pure culture on sugar-agar, three days at 37°. × 1000. Bacilli with spores and free spores. Stained with fuchsin.

PLATE 46.

Bacillus œdematis maligni. Koch. (Malignant Edema.)

I. *Sugar-agar stab culture*, eight days at 37°.

II. *Microscopic preparation.* Tuft of flagella. × about 1500. Copied from G. Novy ("Zeitschrift f. Hygiene," Bd. xvii, Taf. 1, 2).

III. *Microscopic preparation.* Bacilli with flagella. Pure culture on agar, twenty-four hours old. × 1000. Stained according to Löffler.

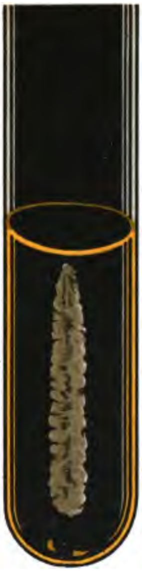
IV. *Sugar-agar plate*, four days at 22°. × 60. Part of a superficial colony.

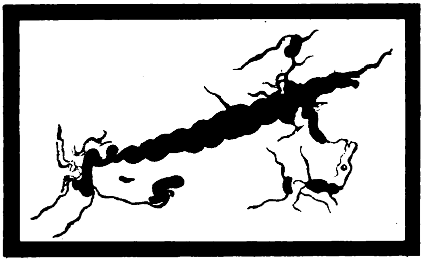
V. *Sugar agar plate*, six days at 22°. Natural size.

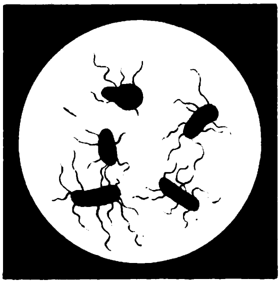
VI. *Microscopic preparation.* Pure culture on agar, two days old at 37°. Bacilli with spores. × 1000. Stained with fuchsin.

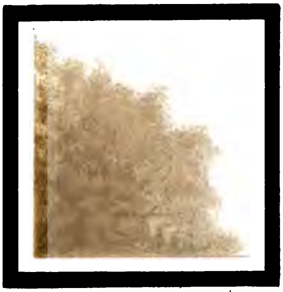
VII. *Microscopic preparation.* Tissue-juice from guinea-pig. Smear preparation. Copied after Fränkel and Pfeiffer (Mikrophotogr. Atlas, Taf. xxiii, 46).

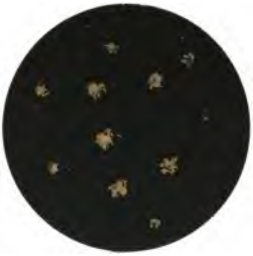
Tab. 46.

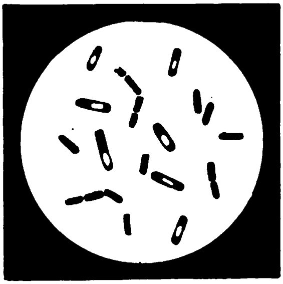

I.

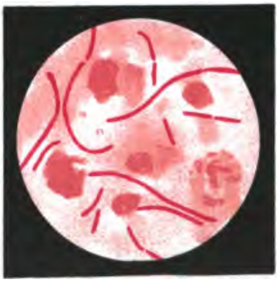

II.


III.


IV.

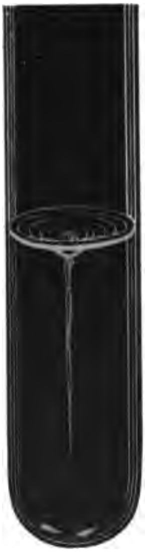

V.


VI.

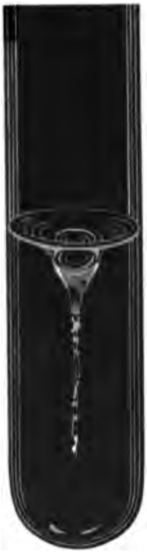

VII.

Lith. Anst. F. Reichhold, München.

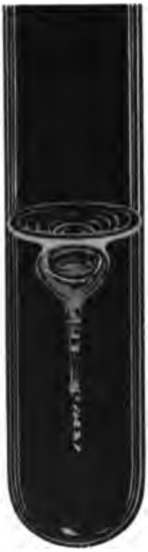
Tab. 47.



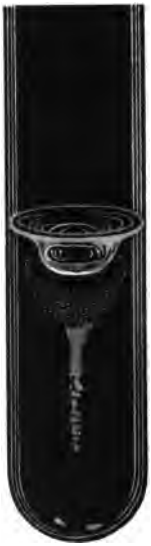
I.



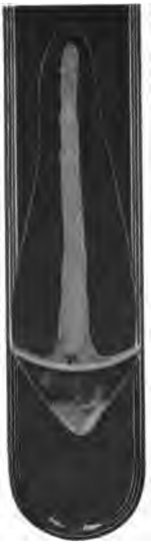
II.



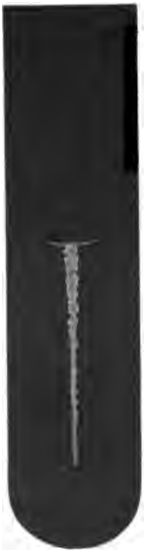
III.



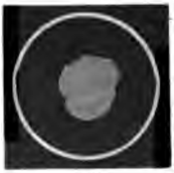
IV.



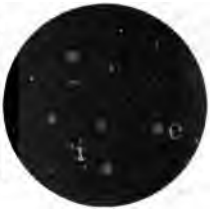
V.



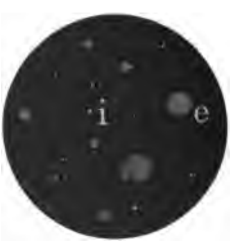
VI.



VII.



VIII.



IX.

Lith. Anst F. Reichhold, München.

PLATE 47.

Vibrio choleræ. (Koch.) Buchner. (Comma Bacillus.)

I. *Gelatin stab culture,* two days at 22°.

II. *Gelatin stab culture,* seven days at 22°.

III. *Gelatin stab culture,* eight days at 22°. Culture from a case of cholera asiatica in Hanover.

IV. *Gelatin stab culture,* eight days at 22°.

V. *Agar streak culture,* eleven days at 22°.

VI. *Agar stab culture,* eight days at 22°. Stab canal.

VII. *Agar stab culture,* eight days at 22°. Surface growth.

VIII. *Agar plate,* six days at 22°. Natural size.

IX. *Agar plate,* six days at 22°. Culture from a case of cholera asiatica in Hanover.

PLATE 48.

Vibrio choleræ. (Koch.) Buchner. (Comma Bacillus.)

I. *Agar plate,* thirty-six hours at 22°. × 60. To the left superficial, to the right deep colonies.

II. *Agar plate,* two days at 22°. × 60. To the left superficial, to the right deep colonies.

III. *Agar plate,* three days at 22°. × 60. To the left superficial, to the right deep colonies.

IV. *Agar plate,* three weeks at 22°. × 60. To the left superficial, to the right deep colonies.

V. *Agar plate,* five days at 22°. × 60. Colonies of a culture of cholera asiatica from Hanover. Superficial and deep colonies.

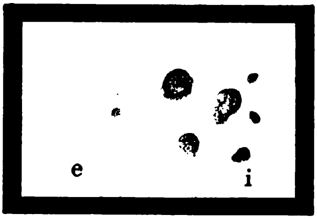
VI. *Gelatin plate,* four days at 22°. Natural size. Deeply sunken funnels of liquefaction.

VII. *Gelatin plate,* fourteen days at 22°. Natural size. Colony with a pronounced formation of zones.

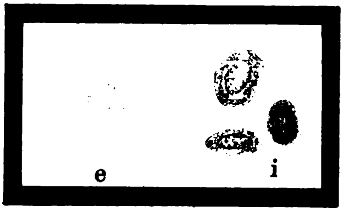
VIII. *Gelatin plate,* four days at 22°. Shallow zones of liquefaction.

IX. *Gelatin plate,* six days at 22°. Superficial sinking in of colonies with concentric zones of liquefaction.

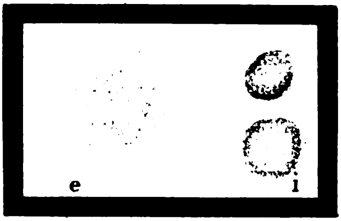
Tab. 48.



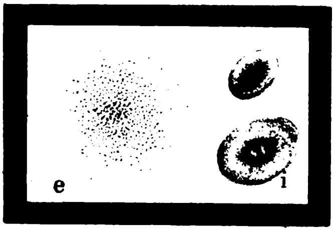
I.



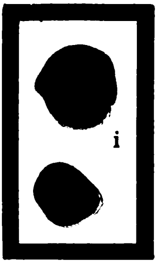
II.



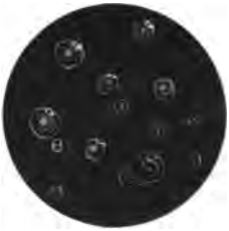
III.



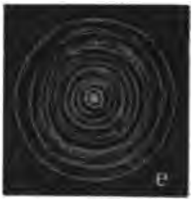
IV.



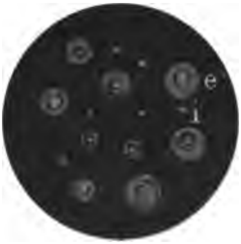
V.



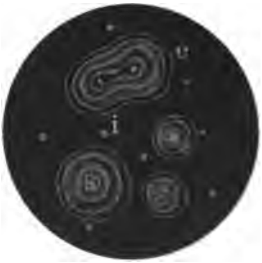
VI.



VII.



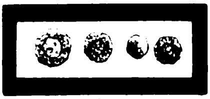
VIII.



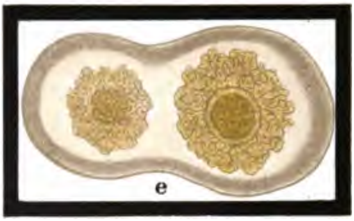
IX.

Lith. Anst. F. Reichhold, München.

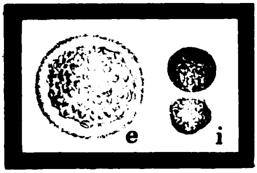
Tab. 49.



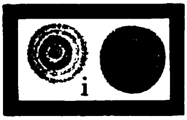
I.



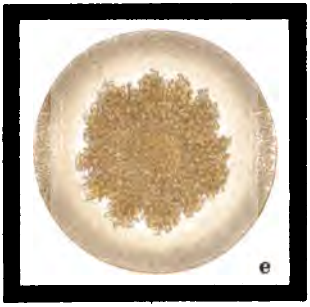
III.



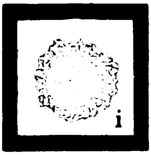
II.



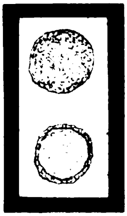
IV.



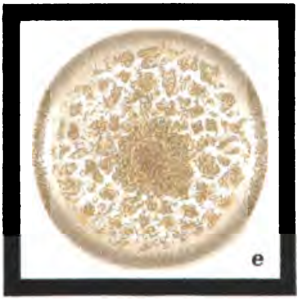
V.



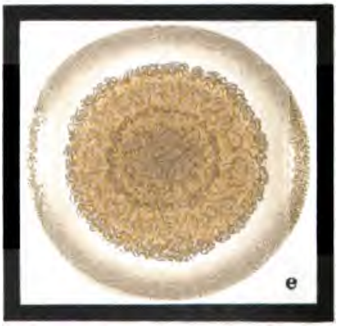
VI.



VII.



VIII.



IX.

Lith. Anst F. Reichhold, München.

PLATE 49.

Vibrio choleræ. (Koch.) Buchner. (Comma Bacillus.)

I. *Gelatin plate,* thirty-six hours at 22°. × 60. Deep and superficial colonies.

II. *Gelatin plate,* forty-eight hours at 22°. × 60. To the left superficial, to the right deep colonies.

III. *Gelatin plate,* three days at 22°. × 60. Superficial colonies with zone of liquefaction.

IV. *Gelatin plate,* three days at 22°. × 60. Deep colonies.

V. *Gelatin plate,* four days at 22°. × 60. Superficial colony with zone of liquefaction.

VI. *Gelatin plate,* four days at 22°. × 60. Deep colony.

VII. *Gelatin plate,* five days at 22°. × 60. Deep colony from a culture of cholera from Hanover.

VIII. *Gelatin plate,* five days at 22°. × 60. Superficial colony. Complete liquefaction has already taken place.

IX. *Gelatin plate,* eight days at 22°. × 60. Superficial colony with zone of liquefaction.

PLATE 50.

Vibrio choleræ. (Koch.) Buchner. (Comma Bacillus.)

I. *Gelatin plate,* five days at 22°. × 60. Abnormal form of superficial colony.

II. *Gelatin plate,* five days at 22°. × 90. Abnormal form of superficial colony.

III. *Gelatin plate,* five days at 22°. × 60. Deeply sunken superficial colony with a strongly reflecting zone of liquefaction.

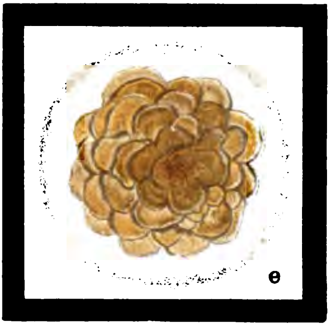
IV. *Gelatin plate,* six days at 22°. × 60. Abnormal superficial colony, with dense nucleus, evenly sunken in and with a zone of liquefaction.

V. *Gelatin plate,* six days at 22°. × 60. Abnormal deep colony, without halo, dark, with radiating striations, from the same plate as IV.

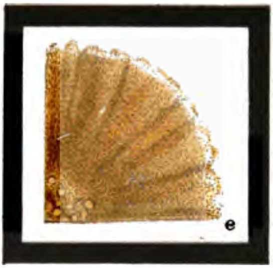
VI. *Potato culture,* two days at 22°. Natural size. Soaked in soda solution before inoculation.

VII. *Potato culture,* five days at 22°. Inoculated upon ordinary potato.

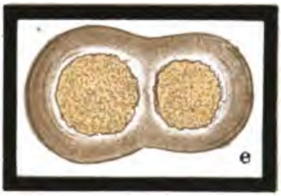
Tab. 50.



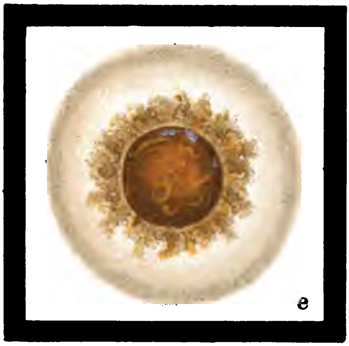
I.



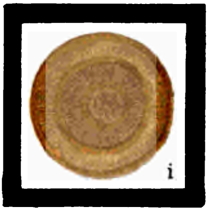
II.



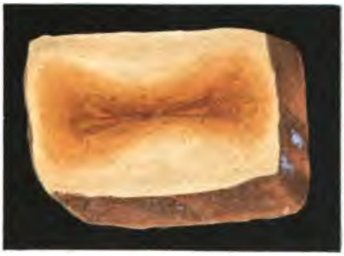
III.



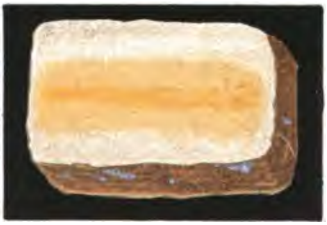
IV.



V.



VII.



VI.

Lith. Anst F. Reichhold, München

Peterson and Haines' Legal Medicine and Toxicology

A Text-Book of Legal Medicine and Toxicology. Edited by Frederick Peterson, M. D., Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, New York; and Walter S. Haines, M. D., Professor of Chemistry, Pharmacy, and Toxicology, Rush Medical College, in affiliation with the University of Chicago. Two imperial octavo volumes of about 750 pages each, fully illustrated. Per volume: Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

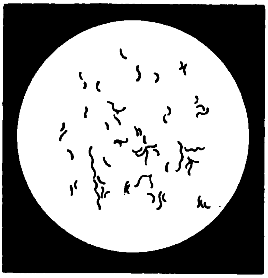
JUST READY

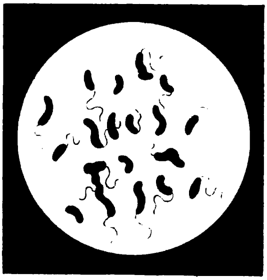
The object of the present work is to give to the medical and legal professions a comprehensive survey of forensic medicine and toxicology in moderate compass. An interesting and important chapter is that on "The Destruction and Attempted Destruction of the Human Body by Fire and Chemicals." A chapter not usually found in works on legal medicine is that on "The Medicolegal Relations of the X-Rays." This section will be found of unusual importance. The responsibility of pharmacists in the compounding of prescriptions, in the selling of poisons, in substituting drugs other than those prescribed, etc., furnishes a chapter of the greatest interest.

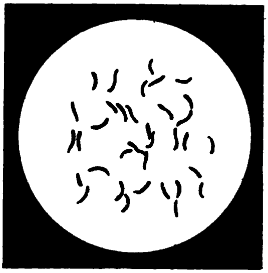
Sent post-paid on receipt of price.

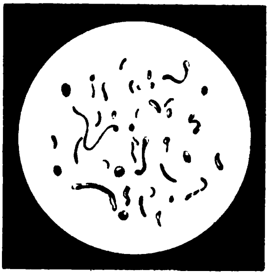
W. B. SAUNDERS & CO., Publishers,
925 Walnut St., Philadelphia.

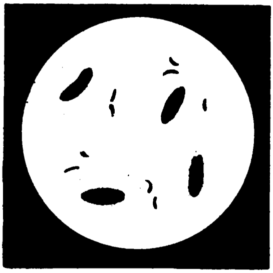
Tab. 51.

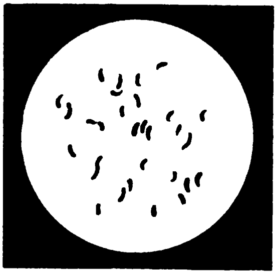

I.


II


III.


IV.


V.


VI.

Lith. Anst. F. Reichhold, München.

PLATE 51.

Vibrio choleræ. (Koch.) Buchner. (Comma Bacillus.)

I. *Pure culture in bouillon,* twenty-four hours at 37°. Stained with fuchsin. × 1000.

II. *Pure culture on agar,* twenty-four hours. × 1000. Flagella staining according to Löffler.

III. *Pure culture on gelatin,* forty-eight hours. Very fresh from water. (Copied from Fränkel and Pfeiffer, Fig. 94.)

IV. *Pure culture on agar,* four weeks' old. Involution forms, stained with fuchsin.

V. **Vibrio Metschnikovii** Gamaleia. *Smear preparation from pigeon's blood.* (Copied after Fränkel and Pfeiffer, Fig. 102.)

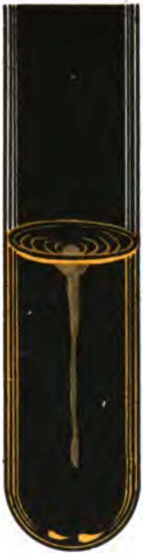
VI. **Vibrio Proteus** Buchner. *Pure culture in bouillon,* twenty-four hours. Stained with fuchsin.

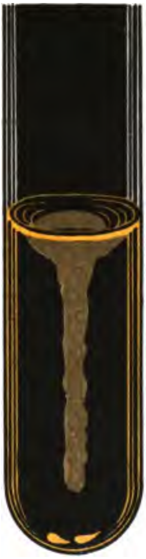
PLATE 52.

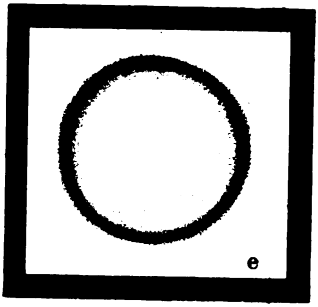
Vibrio proteus. Buchner. (Vibrio Finkler.)

I. *Gelatin stab culture,* one day at 22°.
II. *Gelatin stab culture,* four days at 22°.
III. *Gelatin plate,* one day at 22°. Natural size.
IV. *Gelatin plate,* four days at 22°. × 60. Superficial colony.
V. *Gelatin plate,* four days at 22°. × 60. Deep colony.
VI. *Agar streak culture,* six days at 22°.
VII. *Agar plate,* four days at 22°. × 60. Superficial colony.
VIII. *Agar plate,* four days at 22°. × 60. Deep colony.
IX. *Agar plate,* four days at 22°. Natural size.

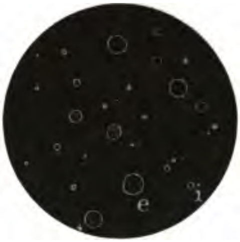
Tab. 52.


I.

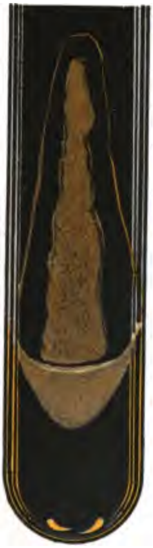

II.

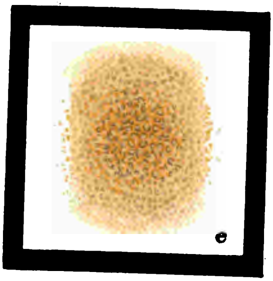


IV.

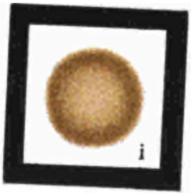


III.

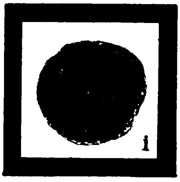

VI.



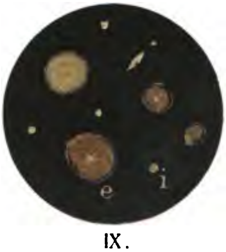
VII.



V.



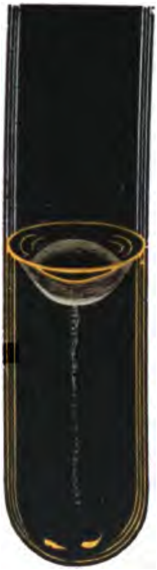
VIII.

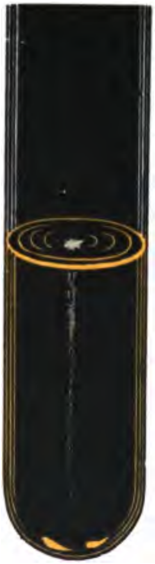


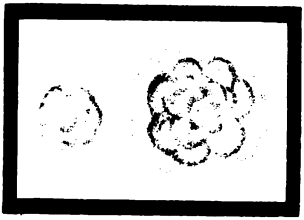
IX.

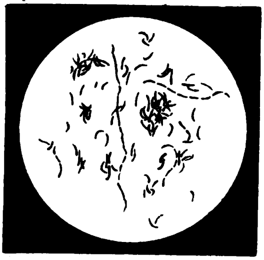
Lith. Anst F. Reichhold, München.

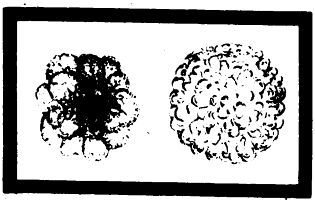
Tab. 53.

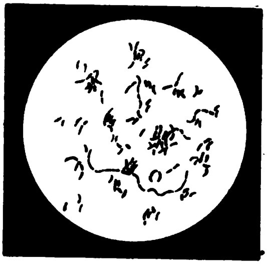

I.

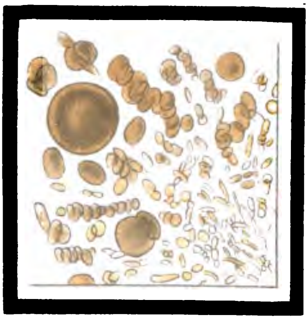

II.

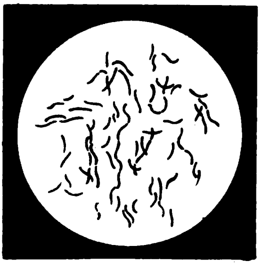

III.

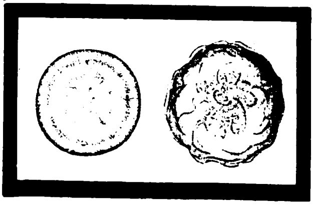

IV.


V.


VI.


VII.


VIII.


IX.

Lith. Anst. F. Reichhold München.

PLATE 53.

Vibrio danubicus Heider, **Vibrio berolinensis** Rubner, **Vibrio aquatilis** Günther.

I. *Vibrio danubicus:* Gelatin stab culture, three days at 22°.

II. *Vibrio aquatilis:* Gelatin stab culture, three days at 22°.

III. *Vibrio danubicus:* Gelatin plate, three days at 22°. × 60. To the right superficial, to the left deep colony.

IV. *Vibrio danubicus:* Microscopic preparation. Pure culture on agar, twenty-four hours. Stained with fuchsin. × 800.

V. *Vibrio berolinensis:* Gelatin plate, three days at 22°. × 60. To the right superficial, to the left deep colony.

VI. *Vibrio berolinensis:* Microscopic preparation. Pure culture from agar, twenty-four hours. × 800. Stained with fuchsin.

VII. *Vibrio aquatilis:* Gelatin plate, three days at 22°. × 60. Deep colonies, swarming outward from one point forming secondary ones.

VIII. *Vibrio aquatilis:* Microscopic preparation. Pure culture on agar, twenty-four hours at 22°. × 800. Stained with fuchsin.

IX. *Vibrio aquatilis:* Gelatin plate, three days at 22°. × 60. To the right superficial, to the left deep colony.

PLATE 54.

Vibrio albensis. Lehm. and Neum. (Phosphorescent Elbe Vibrio.)

I. *Gelatin stab culture,* twenty-four hours at 22°.

II. *Gelatin stab culture,* four days at 22°.

III. *Gelatin stab culture,* ten days at 22°.

IV. *Indol reaction* after ten days. Bouillon culture with dilute sulphuric acid, warmed.

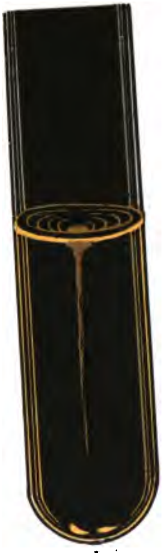
V. *Gelatin plate,* three days at 22°. × 60. Superficial colony.

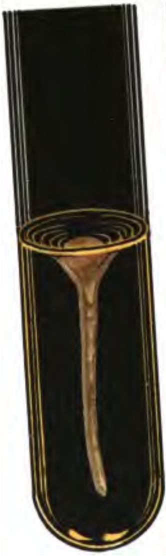
VI. *Gelatin plate,* three days at 22°. × 60. Deep colonies.

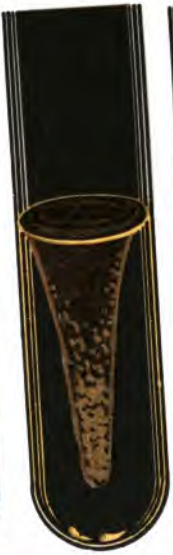
VII. *Gelatin plate,* thirty-six hours at 22°. Natural size.

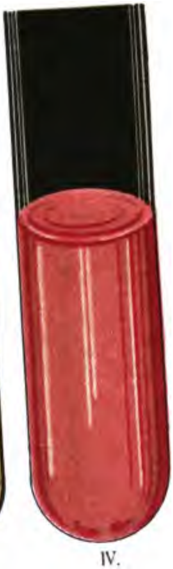
VIII. *Microscopic preparation.* Pure culture from agar, forty-eight hours. Stained with fuchsin.

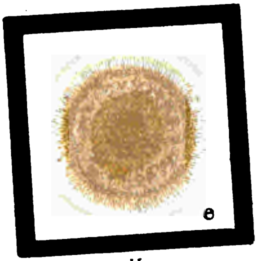
Tab. 54.


I.

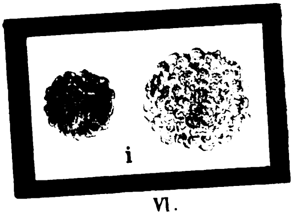

II.


III.

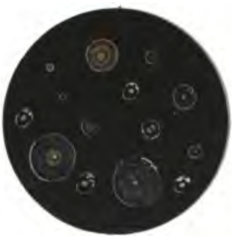

IV.

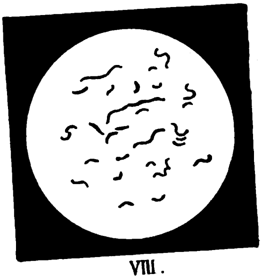


V.



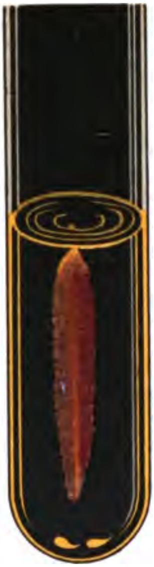
VI.


VII.

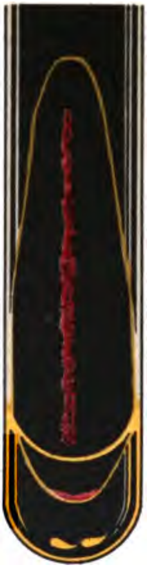

VIII.

Lith. Anst. F. Reichhold, München.

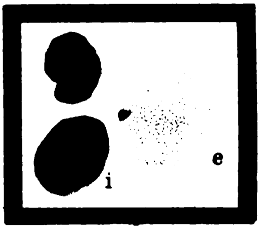
Tab. 55.



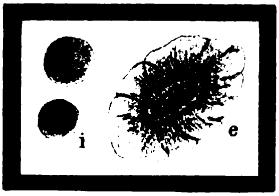
I.



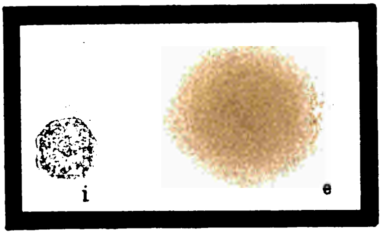
II.



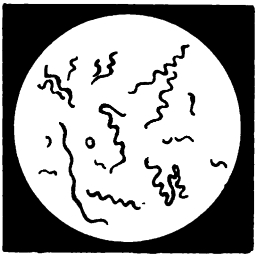
III.



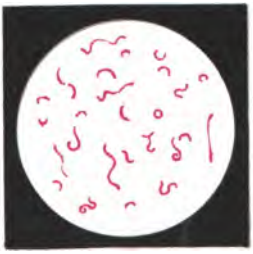
IV.



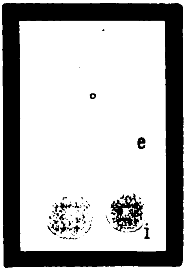
VI.



V.



IX.



VII.

VIII

Lith. Anst F. Reichhold. München.

PLATE 55.

Spirillum rubrum. Von Esmarch.

I. *Agar stab culture,* ten days at 22°.

II. *Agar streak culture,* twenty days at 22°.

III. *Agar plate,* five days at 22°. × 60. (e) Superficial, (i) deep colonies.

IV. *Gelatin plate,* seven days at 22°. × 60. (e) Superficial, (i) deep colonies.

V. *Microscopic preparation.* Pure culture from bouillon, diluted ten times; two days at 37°. × 1000. Stained with fuchsin.

V A. *Flagella preparation of spirillum rubrum.* × 1000. Stained according to Löffler.

V A.

Spirillum concentricum. Kitasato.

VI. *Agar plate,* seven days at 22°. × 60. (e) Superficial, (i) deep colonies.

VII. *Gelatin plate,* three days at 22°. × 60. (e) Superficial, (i) deep colonies.

VIII. *Agar plate,* seven days at 22°. Natural size.

IX. *Microscopic preparation.* Pure culture in bouillon, two days at 37°. × 1000. Stained with fuchsin.

PLATE 56.

Spirilla.

I. **Spirillum serpens** Müller. With difficulty staining protoplasmic border. × about 1000. Stained with fuchsin. Copied after Zettnow (C. B. x, Taf. 5).

II. **Spirilla from Nasal Mucus.** Smear preparation with two cells. × about 1000. Copied after Weibel (C. B. II, p. 468, Fig. 1).

III. **Spirilla from Nasal Mucus.** Agar plate. Pure culture. × about 1000. (Copied C. B. II, p. 468, Fig. 2.)

IV. **Spirilla from Nasal Mucus.** Gelatin plate. Pure culture. × about 1000. (Copied C. B. II, p. 468, Fig. 3.)

V. **Spirillum undula** Müller. With flagella. × about 800. Copied after Löffler (C. B. VI, Taf. I, Fig. 2).

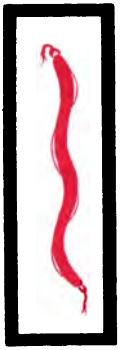
VI. **Vibrio spermatozoides** Löffler. × about 1000. Copied after Löffler (C. B. VII, Taf. III, Fig. 7).

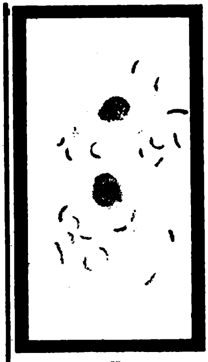
VII. **Spirochæte from Mucus of the Mouth.** (Copied after Löffler: Bakterien, Taf. I, Fig. 4.)

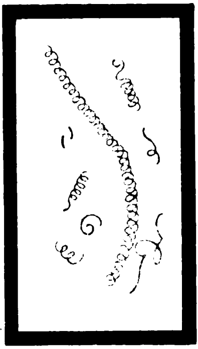
VIII. **Spirochæte Obermeieri** Cohn. Smear preparation from human blood. (Copied after Fränkel and Pfeiffer, Atlas, No. 134.)

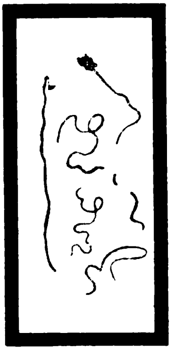
IX. *Spirilla of relapsing fever.* Human blood. Spirilla grouped in the form of a star. (Copied after M. J. Soudakewitsch: Annales de l'instit. Pasteur, Bd. V, 1891, p. 514, plate 14, Fig. 1.)

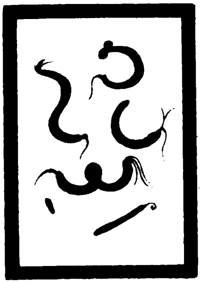
Tab. 56.

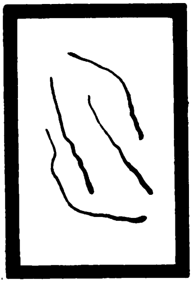

I.

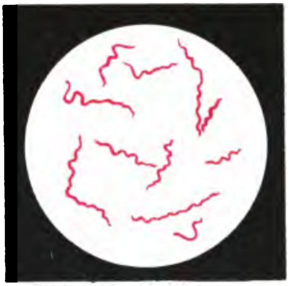

II.

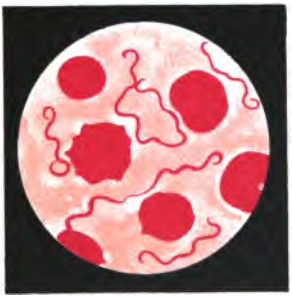

III.

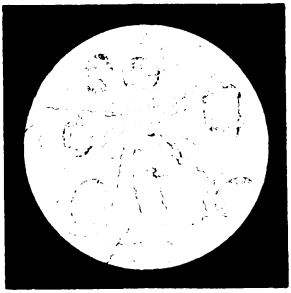

IV.


V.


VI.

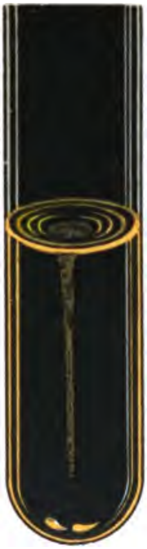

VII.


VIII.

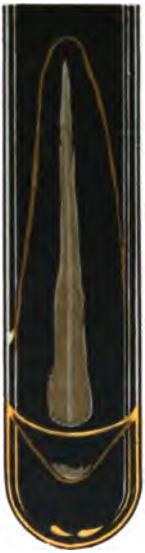

IX.

Lith. Anst. F. Reichhold, München.

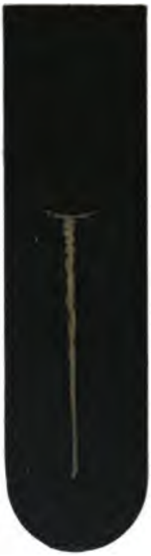
Tab. 57.



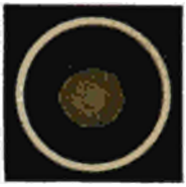
I.



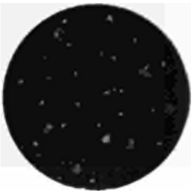
II.



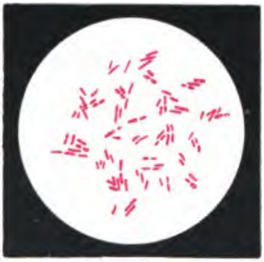
III.



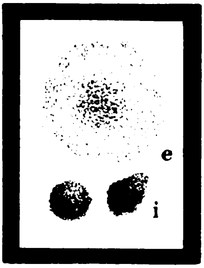
IV.



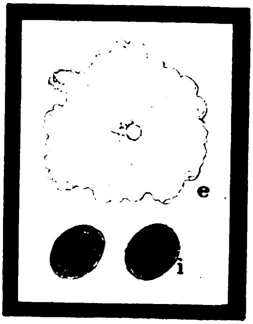
V.



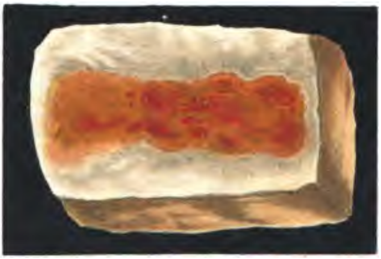
VI.



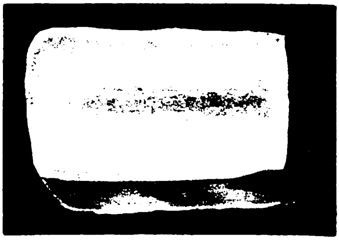
VII.



VIII.



IX.



X.

Lith. Anst. F. Reichhold, München.

PLATE 57.

Corynebacterium mallei. (Löffler.) L. and N.

(Glanders.)

I. *Gelatin stab culture,* six days at 22°.

II. *Agar streak culture,* six days at 37°. The central whitish streak is not always so pronounced.

III. *Agar stab culture,* three days at 37°. Stab canal.

IV. *Agar stab culture,* three days at 37°. Surface growth.

V. *Gelatin plate,* five days at 22°. Natural size.

VI. *Microscopic preparation.* Pure culture. × 800. Stained with fuchsin.

VII. *Agar plate,* two days at 22°. × 60. Upper, superficial; lower, deep colonies.

VIII. *Gelatin plate,* four days at 22°. × 60. Upper colony superficial, lower ones deep.

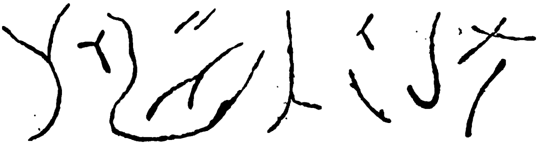
IX. *Potato culture,* two days at 37°.

X. *Potato culture,* twenty days at 37°.

XI. *Single bacteria.* Highly magnified. In many places the stain is taken poorly or not at all.

XI.

XII. *Glycerin-agar plate.* Microscopic preparation. × 1200. Branching and formation of clubs.



XII.

PLATE 58.

Corynebacterium diphtheriæ. (Klebs, Löffler.) L. and N.

Corynebacterium pseudodiphtheriticum. (Hofmann-Wellenhof.) Lehm. and Neum.

Corynebacterium xerosis. (Kuschbert, Neisser.) Lehm. and Neum.

I. **Coryneb. diphtheriæ.** *Glycerin-agar streak culture*, three days at 37°. Luxuriant growth; culture moist.

II. **Coryneb. diphtheriæ.** *Glycerin-agar streak culture*, three days at 37°. Delicate growth.

III. **Coryneb. pseudodiphtherit.** *Glycerin-agar streak culture*, three days at 37°. Luxuriant growth, culture moist.

IV. **Coryneb. xerosis.** *Glycerin-agar streak culture*, three days at 37°. Delicate growth; growth dry and dull.

V. **Coryneb. pseudodiphtherit.** *Glycerin-agar stab culture.* Surface growth, ten days at 37°. The culture is reproduced on account of its atypical brown color.

VI. **Coryneb. diphtheriæ.** *Gelatin stab culture.* Surface growth, ten days at 22°. The color fluctuates from white to dirty yellowish.

VII. **Coryneb. diphtheriæ:**

Natural size.

(a) *Glycerin-agar plate.* Colonies upon the surface, three days at 37°. Luxuriant growth. The same culture as I.

(b) *Glycerin-agar plate.* Colonies upon the surface, three days at 37°. Delicate growth. The same culture as II.

VIII a. **Coryneb. pseudodiphtherit.** *Glycerin-agar plate.* Colonies lying upon the surface, three days at 37°. Natural size. Luxuriant growth. Answers to culture III.

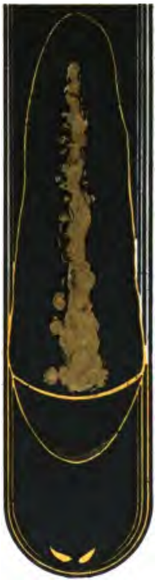
VIII b. **Coryneb. xerosis.** *Glycerin-agar plate.* Colonies lying upon the surface, three days at 37°. Natural size. Dry, dull growth. Answers to culture IV.

VIII c. **Coryneb. xerosis.** *Glycerin-agar plate.* Colonies lying upon the surface, three days at 37°. Natural size. Delicate growth. Sometimes it may be still more delicate.

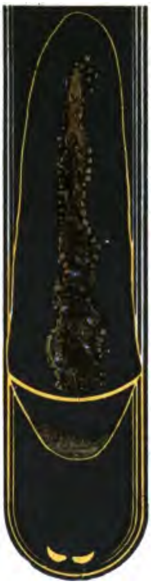
IX. **Coryneb. diphtheriæ.** *Potato culture*, ten days at 22°. The growth is typical, like a delicate veil, which in many places leaves no trace on the potato.

X. **Coryneb. pseudodiphtherit.** *Potato culture*, ten days at 22°. The growth is sharply outlined, white to dirty yellowish.

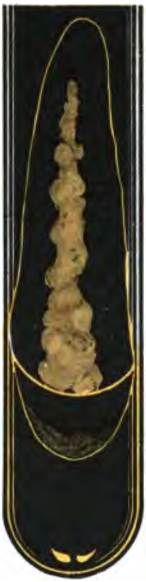
Tab. 58.



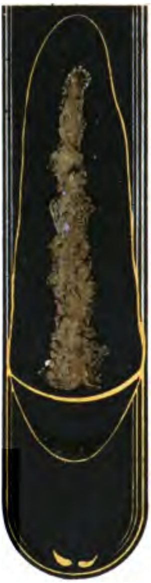
I.



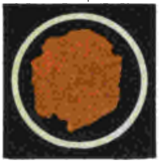
II.



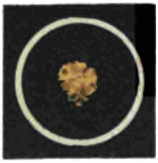
III.



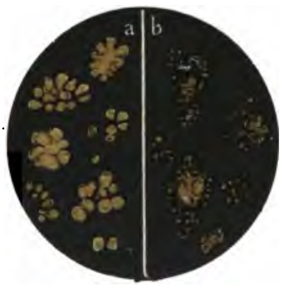
IV.



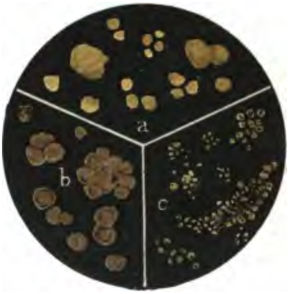
V.



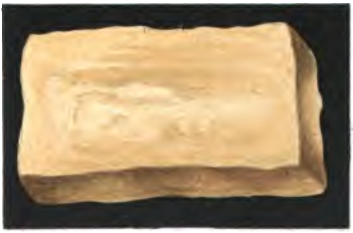
VI.



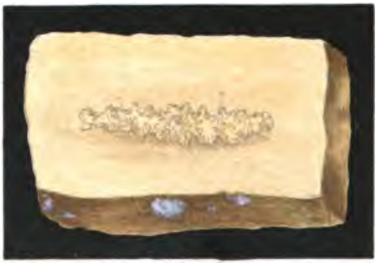
VII.



VIII.



IX.



X.

Nothnagel's Practice

VOLUMES READY AND IN PRESS

Typhoid and Typhus Fevers. By DR. H. CURSCHMANN, of Leipsic. The entire volume edited, with additions, by **Wm. Osler, M.D., F.R.C.P.,** Professor of Principles and Practice of Medicine, Johns Hopkins University. Octavo, 646 pages, illustrated.

Diseases of the Stomach. By DR. F. RIEGEL, of Giessen. Edited, with additions, by **Charles G. Stockton, M.D.,** Professor of Medicine, University of Buffalo. Octavo of 835 pages, with 29 text-cuts and 6 full-page plates.

Intestines and Peritoneum. By DR. HERMANN NOTHNAGEL, of Vienna. The entire volume edited, with additions, by **Humphrey D. Rolleston, M.D., F.R.C.P.,** Physician to and Lecturer on Pathology at St. George's Hospital, London. Octavo of 800 pages, finely illustrated.

Tuberculosis and Acute General Miliary Tuberculosis. By DR. G. CORNET, of Berlin. Edited, with additions, by **Walter B. James, M.D.,** Professor of the Practice of Medicine, Columbia University, New York. Octavo of 700 pages.

Influenza, Dengue, Malarial Diseases. By DR. O. LEICHTENSTERN, of Cologne, and DR. J. MANNABERG, of Vienna. The entire volume edited, with additions, by **Ronald Ross, F.R.C.S. Eng., D.P.H., F.R.S.,** Major, Indian Medical Service, retired. Octavo of 700 pages, with 7 full-page lithographic plates in colors.

Anemia, Leukemia, Pseudoleukemia, Hemoglobinemia, and Chlorosis. By DR. P. EHRLICH, of Frankfort-on-the Main; DR. A. LAZARUS, of Charlottenburg; DR. FELIX PINKUS, of Berlin; and DR. K. VON NOORDEN, of Frankfort-on-the-Main. The entire volume edited, with additions, by **Alfred Stengel, M.D.,** Professor of Clinical Medicine, University of Penna. Octavo of 750 pages, with 5 full-page lithographs in colors.

Each Volume Complete and Sold Separately

Sent post-paid on receipt of price.

W. B. SAUNDERS & CO., Publishers,
925 Walnut St., Philadelphia.

Nothnagel's Practice

VOLUMES NOW READY

Smallpox (including **Vaccination**), **Varicella, Cholera, Erysipelas, Pertussis, Hay Fever.** By Dr. H. Immermann, of Basle; Dr. Th. von Jürgensen, of Tübingen; Dr. C. Liebermeister, of Tübingen; Dr. H. Lenhartz, of Hamburg; and Dr. G. Sticker, of Giessen. The entire volume edited, with additions, by **Sir J. W. Moore, M.D., F.R.C.P.I.,** Professor of Practice, Royal College of Surgeons, Ireland. Octavo, 682 pages, illustrated.

Diphtheria, Measles, Scarlet Fever, and Rotheln. By Wm. P. Northrup, M.D., of New York, and Dr. Th. von Jürgensen, of Tübingen. The entire volume edited, with additions, by **Wm. P. Northrup, M.D.,** Professor of Pediatrics, University and Bellevue Hospital Medical College, N. Y. Octavo, 672 pages, illustrated, including 24 full-page plates, 3 in colors.

Bronchi and Pleura; Inflammations of Lungs. By Dr. F. A. Hoffmann, of Leipsic; Dr. O. Rosenbach, of Berlin; and Dr. A. Aufrecht, of Magdeburg. The entire volume edited, with additions, by **John H. Musser, M.D.,** Professor of Clinical Medicine, University of Pennsylvania. Octavo, 1029 pages, illustrated, including 7 full-page colored lithographic plates.

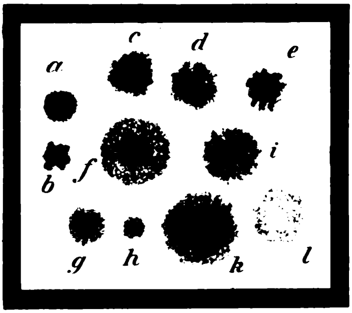
Pancreas, Suprarenals, and Liver. By Dr. L. Oser, of Vienna; Dr. E. Neusser, of Vienna, and Drs. H. Quincke and G. Hoppe-Seyler, of Kiel. The entire volume edited, with additions, by **Reginald H. Fitz, A.M., M.D.,** Hersey Professor of the Theory and Practice of Physic, Harvard University; and **Frederick A. Packard, M.D.,** Late Physician to the Pennsylvania and to the Children's Hospitals. Octavo of 918 pages, illustrated.

Per Vol: Cloth, $5.00 net; H. Morocco, $6.00 net

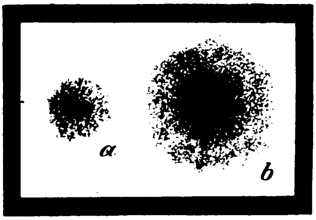
Sent post-paid on receipt of price.

W. B. SAUNDERS & CO~~., Publishers,~~
925 Walnut St., Philadelphia.

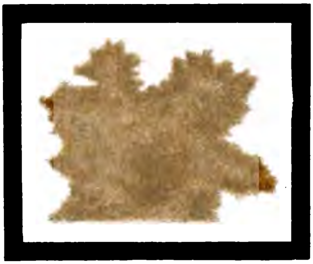
Tab. 59.



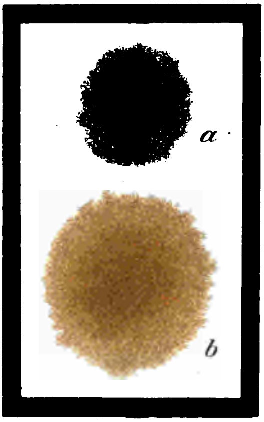
I.



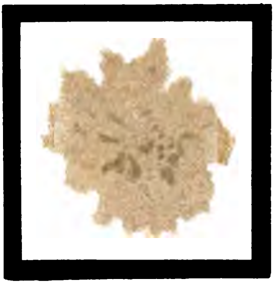
II.



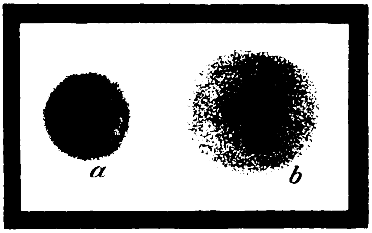
III.



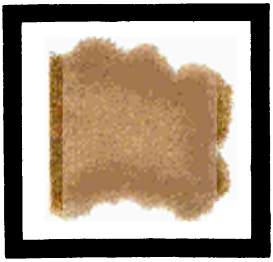
IV.



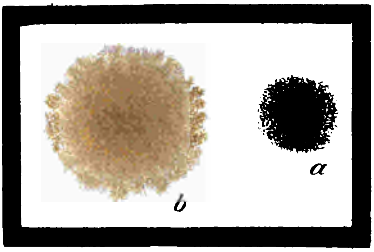
V.



VI.



VII.



VIII.

PLATE 59.

Corynebacterium diphtheriæ. (Klebs, Löffler.) L. and N.

Corynebacterium pseudodiphtheriticum. (Hofmann-Wellenhof.) Lehm. and Neum.

Corynebacterium xerosis. (Kuschbert, Neisser.) Lehm. and Neum.

I. **Coryneb. diphtheriæ.** *Plate cultures* (Ascites-fluid-agar and glycerin-agar). × 60. Superficial colonies, twenty-four hours at 37°. Cultures of different origin.

II. **Coryneb. diphtheriæ.** *Plate culture* (glycerin-agar). × 60. Superficial colonies, forty-eight hours at 37°. The same culture as I, *g*, *h*.

III. **Coryneb. diphtheriæ.** *Plate culture* (ascites-fluid-agar). × 60. Superficial colony, five days at 37°. The same culture as I, *c*, *e*, and Plate 58, II.

IV. **Coryneb. pseudodiphtherit.** *Plate culture* (glycerin-agar). × 60. Superficial colonies, forty-eight hours at 37°. The same culture as Plate 58, III.

V. **Coryneb. xerosis.** *Plate culture* (glycerin-agar). × 60. Superficial colony, forty-eight hours, at 37°. Dry, dull, and very opaque. The same culture as Plate 58, IV, VIII *b*.

VI. **Coryneb. diphtheriæ.** *Plate culture* (ascites-fluid-agar). × 60. Superficial colonies, forty-eight hours at 37°. The same culture as I, *f*, *l*, and Plate 58, I, VII a.

VII. **Coryneb. diphtheriæ.** *Plate culture.* The same as VI, but ten days old.

VIII. **Coryneb. xerosis.** *Plate culture* (glycerin-agar). × 60. Superficial colonies, forty-eight hours at 37°. The same culture as Plate 58, VIII c.

PLATE 60.

Corynebacterium diphtheriæ (Klebs, Löffler). L. and N.

Corynebacterium pseudodiphtheriticum. (Hofmann-Wellenhof.) Lehm. and Neum.

Corynebacterium xerosis (Kuschbert, Neisser). Lehm. and Neum.

I. **Coryneb. diphtheriæ.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin. Corresponds to Plate 58, II, VII b; and Plate 59, II.

II. **Coryneb. diphtheriæ.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin. Corresponds to Plate 58, I, VII a; and Plate 59, VI.

III. **Coryneb. diphtheriæ.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin.

IV. **Coryneb. diphtheriæ.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin.

V. **Coryneb. pseudodiphtherit.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin.

VI. **Coryneb. pseudodiphtherit.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin. Corresponds to Plate 58, III, VIII a; Plate 59, I, IV.

VII. **Coryneb. xerosis.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin. Corresponds to Plate 58, IV, VIII b; and Plate 59, V.

VIII. **Coryneb. xerosis.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin.

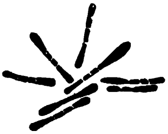
IX. **Coryneb. xerosis.** *Glycerin-agar,* forty-eight hours at 37°. × 1000. Stained with fuchsin. Corresponds to Plate 58, VIII c.

X. **Coryneb. diphtheriæ.** *Bovine blood-serum,* solidified at 100°, eighteen hours at 35°. × 1000. Staining of Neisser's granules. The polar staining is characteristic. Corresponds to figure I.

XI. **Coryneb. pseudodiphtherit.** *Bovine blood-serum,* solidified at 100°, eighteen hours at 35°. × 1000. Staining of Neisser's granules. These occur also in many varieties of pseudodiphtheria, but not with such regularity at both poles.

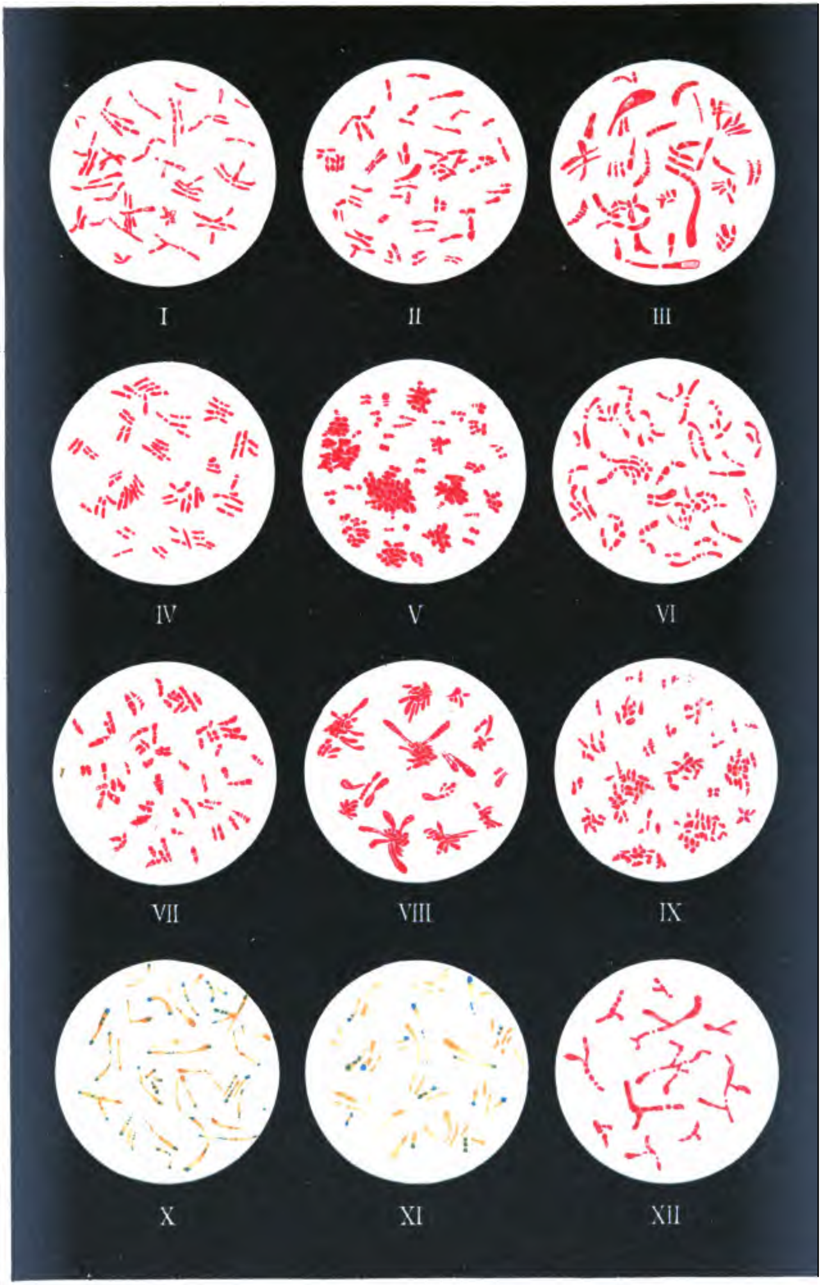
XII. **Coryneb. diphtheriæ.** *Glycerin-agar,* four days at 37°. × 1000. Stained with fuchsin. True branching.

XIII. **Coryneb. diphtheriæ.** Single organisms, highly magnified, schematic.

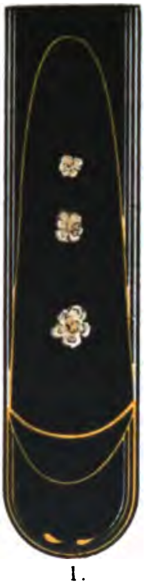


XIII.

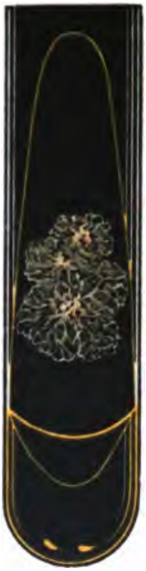
Tab. 60.



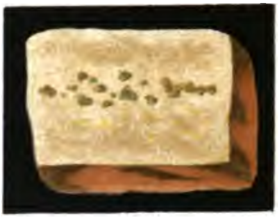
Tab. 61.



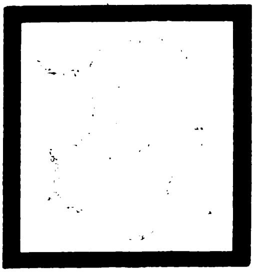
I.



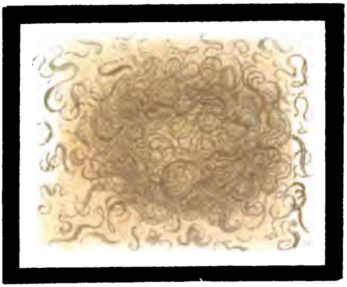
II.



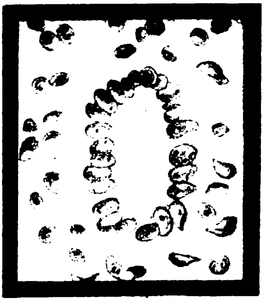
III.



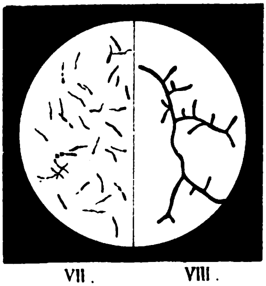
IV.



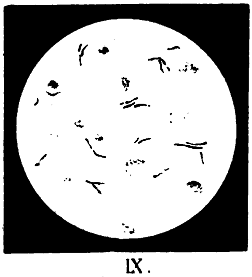
V.



VI.



VII. VIII.



IX.

Lith. Anst. F. Reichhold. München.

PLATE 61.

Mycobacterium tuberculosis (Koch). Lehm. and Neum. (Tubercle Bacillus.)

I. *Glycerin-agar streak culture,* fourteen days at 37°.

II. *Glycerin-agar streak culture,* forty days at 37°.

III. *Potato culture,* forty days at 37°.

IV. *Colonies of tubercle bacilli from a blood-serum culture.* × 700. (Copied after R. Koch, Aetiologie der Tuberkulose. Mitteilungen des Kaiserl. Gesundheitsamt, Bd. 2, Taf. IX, 44.)

V. *Culture, upon blood-serum,* from a piece of a freshly extirpated scrofulous gland. (Copied like the above, Bd. 2, Taf. IX, 44.)

VI. *Giant cell with radially arranged bacilli.* From a caseous bronchial gland in a case of miliary tuberculosis. (Copied like above, Bd. 2, Taf. II, 9.)

VII. *Microscopic preparation.* Pure culture, stained according to Ziehl. × 1000.

VIII. *Branching of tubercle bacilli.* (Copied after Hayo Bruns, C. B. XVII, No. 23.)

IX. *Microscopic preparation.* Sputum, stained according to Ziehl. × 1000.

X. *Single bacteria,* highly magnified.

X.

PLATE 62.

Mycobacterium lepræ. (Arm. Hansen.) Lehm. and Neum.

I. *Giant cell from a leprous ulcer of the epiglottis.* × about 1000. Stained according to Rusell. (Copied from Seifert and Kahn, Atlas der Histopathologie der Nase, 1875, Taf. 38, Fig. 75 b.)

II. *Transverse section of a blood-vessel in a leprous testicle.* Bacilli in endothelium and in a white blood-corpuscle. Stained by Gram's method, Bismarck brown, eosin, oil of bergamot. × about 1000. (Copied as No. III, fig. V.)

III. *Ulnar nerve, longitudinal section,* stained like above. (Copied from Lie, pathologische Anatomie der Lepra; Archiv für Dermatologie und Syphilis, Bd. XXIX, 1895, Taf. VI, Fig. VII.)

IV. *Smear preparation from nasal mucus.* Stained by method for tubercle bacillus. From a preparation of Dr. Dieudonné. × 1000.

Mycobacterium tuberculosis γ **piscicola.** L. and N.

V. *Streak culture* (glycerin-agar), one month old at 22°.

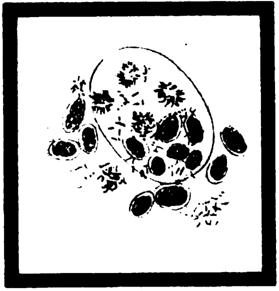
VI. *Plate culture* (glycerin-agar), ten days at 22°. Natural size. Superficial colonies.

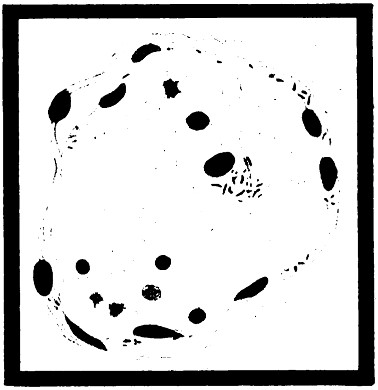
VII. *Plate culture* (glycerin-agar), six days at 22°. × 60. Superficial colony. The dark shadows and bright lights represent the strong reflection of the cartilaginous colony.

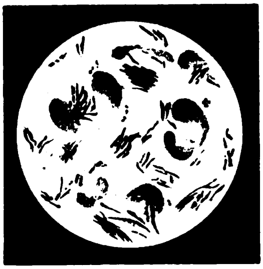
VIII. *Potato culture,* fourteen days at 22°. Sometimes also more homogeneous upon the surface.

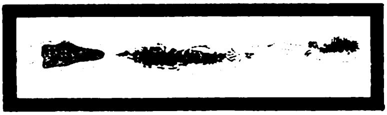
IX. *Microscopic preparation.* Stained by the method for the tubercle bacillus. × 1000.

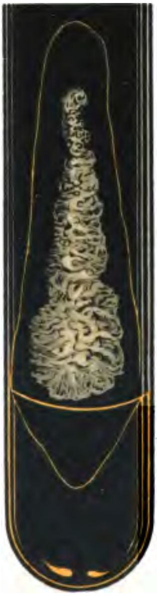
Tab. 62.

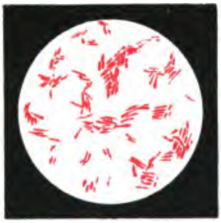

I.

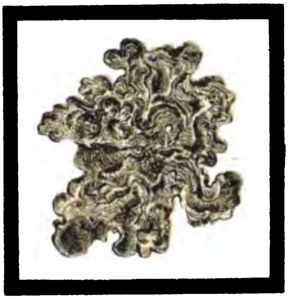

II.

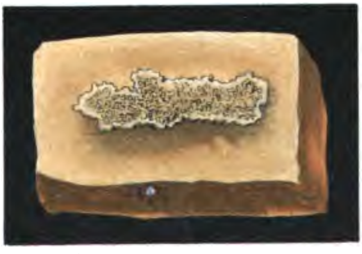

IV.


III.


V.


XI.


VII.


VIII

VI.

Lith. Anst. F. Reichhold, München.

Mallory & Wright's Pathological Technique

Pathological Technique. A Practical Manual for Workers in Pathological Histology and Bacteriology, including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M. D., Assistant Professor of Pathology, and J. H. Wright, M. D., Instructor in Pathology, Harvard University Medical School. Octavo, 432 pages, with 137 illustrations. Cloth, $3.00 net.

SECOND EDITION
REVISED AND ENLARGED

In subjecting this book to thorough revision the authors have kept in view the needs of the laboratory worker, whether student, practitioner, or pathologist, for a practical manual of modern methods in the study of pathological material. Many parts have been rewritten, many new methods have been added, and the number of illustrations has been increased.

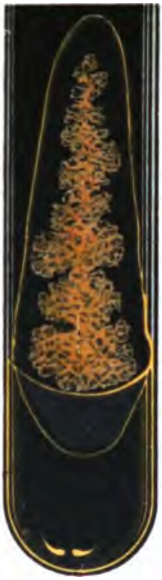
"I have been looking forward to the publication of this book, and I am glad to say that I find it to be a most useful laboratory and post-mortem guide, full of practical information, and well up to date."—William H. Welch, *Professor of Pathology, Johns Hopkins University, Baltimore, Md.*

"One of the most complete works on the subject, and one which should be in the library of every physician who hopes to keep pace with the great advances made in pathology."—*Journal of the American Medical Association.*

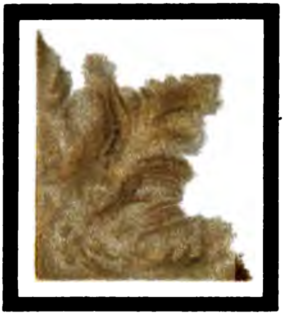
For sale by all Booksellers, or sent post-paid on receipt of price.

W. B. SAUNDERS & CO., Publishers,
925 Walnut St., Philadelphia.

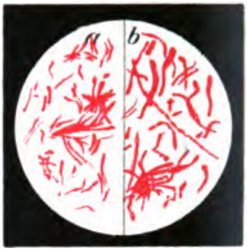
Tab. 63.



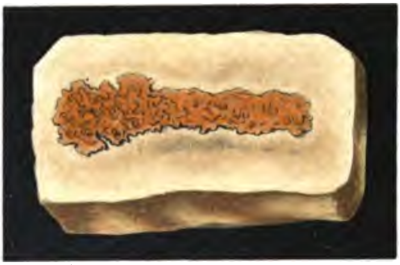
I.



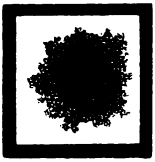
II.



VI.

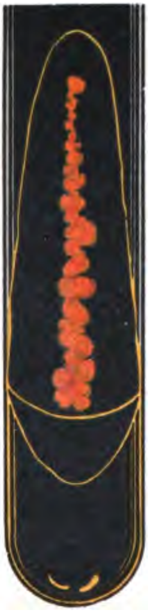


V.



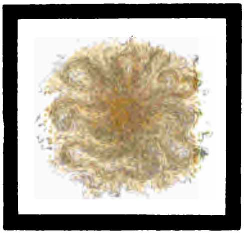
III.

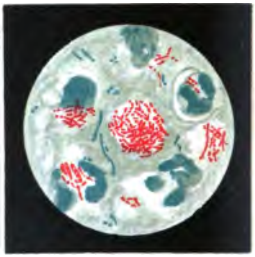
IV.



VIII.

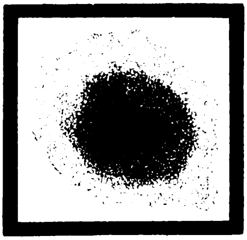
IX.



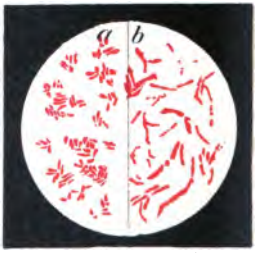


VII.

XI.



X.



XII.

PLATE 63.

Mycobacterium lacticola β perrugosum. L. and N.

I. *Streak culture* (glycerin-agar), two months old; three days at 37°, then at 22°. Much elevated and wrinkled.

II. *Plate culture* (glycerin-agar), six days at 37°. × 60. Superficial colony.

III. *Plate culture* (glycerin-agar), forty-eight hours at 37°. × 60. Superficial colony.

IV. *Plate culture* (glycerin-agar), three days at 37°. Natural size. Superficial colonies. Later the same were larger, more wrinkled, and reddish.

V. *Potato culture,* six days at 22°. Later the same became still more wrinkled.

VI. *Microscopic preparation.* Glycerin-agar: (*a*) Three days at 37°. × 1000. Stained with fuchsin. (*b*) Two months at 22°. × 1000. Stained with fuchsin.

VII. *Microscopic preparation.* Smear from the peritoneal fluid of a guinea-pig, inoculated with butter. × 1000. Stained with tubercle bacillus stain. (From a preparation of Dr. Dieudonné.)

Mycobacterium phlei. Lehm. and Neum.

VIII. *Streak culture* (glycerin-agar), eight days at 22°. The culture at first is pale orange; later, it becomes darker and wrinkled.

IX. *Plate culture* (glycerin-agar), three days at 22°. × 60. Superficial colony.

X. *Plate culture* (glycerin-agar), eight days at 22°. × 60. Superficial colony.

XI. *Plate culture* (glycerin-agar), eight days at 22°. Natural size. Superficial colonies.

XII. *Microscopic preparation.* Glycerin-agar: (*a*) Three days at 37°. × 1000. Stained with fuchsin. (*b*) Two months at 22°. × 1000. Stained with fuchsin.

PLATE 64.

Mycobacterium lacticola *a* **planum.** L. and N.

I. *Streak culture* (ordinary agar), two months at 22°.

II. *Streak culture* (glycerin-agar), six days at 37°.

III. *Streak culture* (glycerin-agar), three months at 22°. The culture at first is whitish; later, it becomes very intensely orange-red.

IV. *Streak culture* (gelatin), six days at 22°.

V. *Potato culture,* six days at 22°. Its appearance varies widely. Sometimes it is lighter, sometimes darker, sometimes moister, sometimes drier, sometimes smooth, sometimes wrinkled.

VI. *Plate culture* (gelatin), six days at 22°. × 60. (*a*) Superficial colony, resembling the colon; (*b*) deep colony.

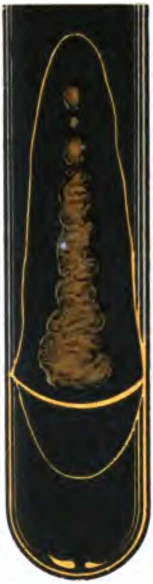
VII. *Plate culture* (gelatin), six days at 22°. Natural size.

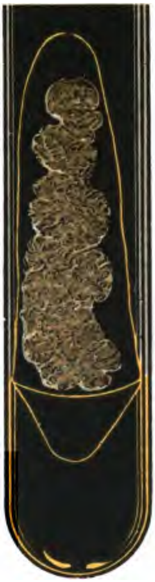
VIII. *Plate culture* (glycerin-agar), three days at 37°. × 60. Superficial colony.

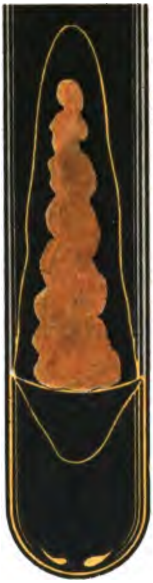
IX. *Plate culture* (glycerin-agar), three days at 37°. Natural size.

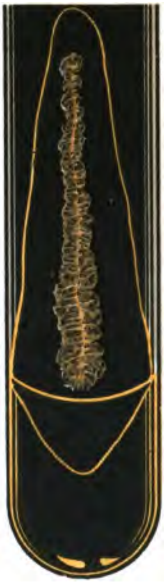
X. *Microscopic preparation.* Glycerin-agar, three days. × 1000. Stained with fuchsin. The size of the rods scarcely varies in very old cultures. There as here are found small and large, slender and thick rods.

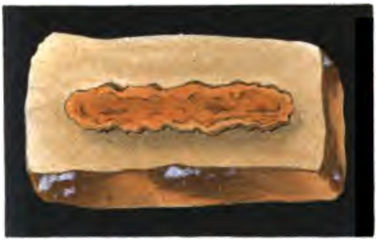
Tab. 64.

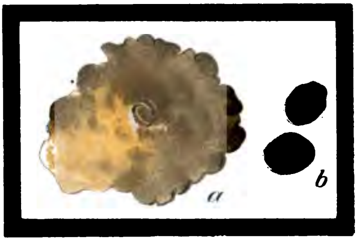

I.


II.


III.

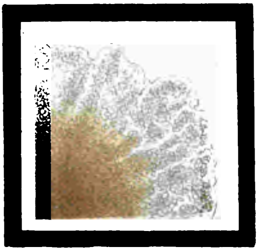

IV.


V.

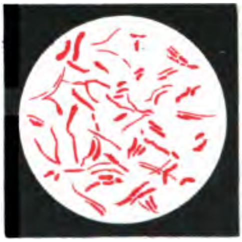


VI.

VII.


VIII.

IX.


X.

Lith. Anst. F. Reichhold, München.

Stoney's Nursing

Practical Points in Nursing. For Nurses in Private Practice. With an Appendix containing Rules for Feeding the Sick; Recipes for Invalid Food and Beverages; Weights and Measures; Dose List; and a full Glossary of Medical Terms and Nursing Treatment. By EMILY A. M. STONEY, late Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Mass. Handsome 12mo of 466 pages, fully illustrated, including 8 colored and half-tone plates. Cloth, $1.75 net.

THIRD EDITION

THOROUGHLY REVISED

In this volume the author explains the entire range of *private* nursing as distinguished from *hospital* nursing, and the nurse is instructed how best to meet the various emergencies of medical and surgical cases when distant from medical or surgical aid, or when thrown on her own resources. An especially valuable feature will be found in the directions how to *improvise* everything ordinarily needed in the sick-room.

In this edition considerable portions of the work have been either amended, modified, or amplified. The sections treating of certain diseases, especially the infectious diseases, as well as the treatment of the common poisonings, have been in large part recast and rewritten.

"A very complete exposition of practical nursing in its various branches, including obstetric and gynecologic nursing."—*The Lancet, London.*

For sale by all Booksellers, or sent post-paid on receipt of price.

W. B. SAUNDERS & CO., Publishers,
925 Walnut Street, Philadelphia.

Griffith's Care of the Baby

The Care. of the Baby. A Manual for Mothers and Nurses, containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. CROZER GRIFFITH, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Handsome 12mo of 436 pages, fully illustrated. Cloth, $1.50 net.

THIRD EDITION

THOROUGHLY REVISED

The author has endeavored to furnish a reliable guide for mothers anxious to inform themselves with regard to the best way of caring for their children in sickness and in health. He has made his statements plain and easily understood, in the hope that the volume may be of service not only to mothers and nurses, but also to medical students and to practitioners whose opportunities for observing children have been limited. In preparing this edition every part has been carefully revised and brought fully in accord with the latest advances in the subject.

"We are confident if this little work could find its way into the hands of every trained nurse and of every mother, infant mortality would be lessened by at least fifty per cent."—*New York Medical Journal.*

For sale by all Booksellers, or sent post-paid on receipt of price.

W. B. SAUNDERS & CO., Publishers,
925 Walnut St., Philadelphia.

PLATE 66.

Actinomyces farcinicus. (Nocard.) Gasperini.
(Farcin du bœuf.)

I. *Agar streak culture,* eight days at 22°.

II. *Gelatin stab culture,* twelve days at 22°.

III. *Agar stab culture,* eight days at 22°. Stab canal.

IV. *Agar stab culture,* eight days at 22°. Surface growth.

V. *Gelatin plate,* ten days at 22°. Natural size.

VI. *Gelatin plate,* ten days at 22°. × 60. Superficial and deep colonies which are similar.

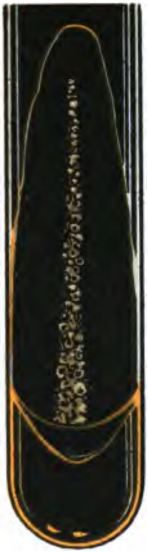
VII. *Agar plate,* six days at 22°. Natural size.

VIII. *Agar plate,* eight days at 22°. Upper colony superficial, lower ones deep.

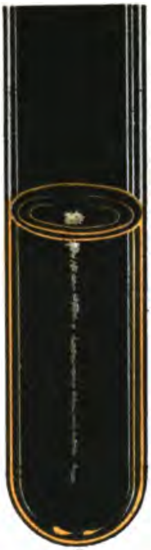
IX. *Potato culture,* seven days at 22°. Natural size.

X. *Microscopic preparation.* Pure culture in bouillon, two days. × 800. Stained with fuchsin.

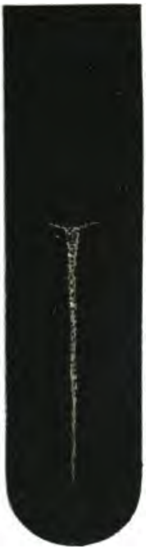
Tab. 66.



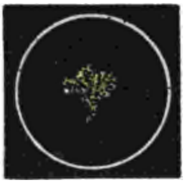
I.



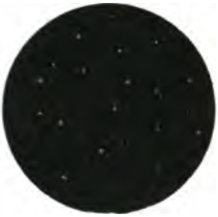
II.



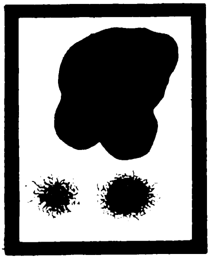
III.



IV.

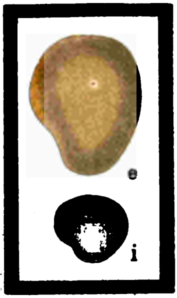


V.

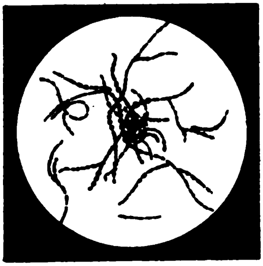


VIII.

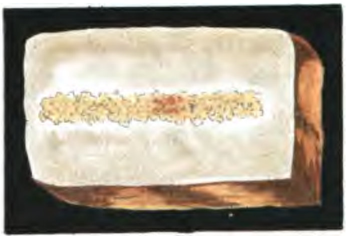
VII.



VI.



X.



IX.

Lith. Anst F. Reichhold, München

PYLE'S
PERSONAL
HYGIENE

A MANUAL OF PERSONAL HYGIENE. Proper Living upon a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A.M., M.D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia. Octavo volume of 350 pages, profusely illustrated. Cloth, $1.50 net.

RECENTLY ISSUED.

The object of this manual is to set forth plainly the best means of developing and maintaining physical and mental vigor. It represents a thorough exposition of living upon a physiologic basis. There are chapters upon the hygiene of the digestive apparatus, the skin and its appendages, the vocal and respiratory apparatus, eye, ear, brain, and nervous system, and a chapter upon exercise. The book is the conjoint work of several well-known American physicians and medical teachers, each writing upon a subject to which he has given special study, thus assuring for the book an originality and authority not possessed by any similar treatise.

"The work has been excellently done; there is no undue repetition, and the writers have succeeded unusually well in presenting facts of practical significance based on sound knowledge."—*Boston Medical and Surgical Journal.*

"Good common-sense advice as to the matter of personal hygiene."—*Bulletin of Johns Hopkins Hospital.*

For sale by all Booksellers, or sent post-paid on receipt of price.

W. B. SAUNDERS & CO., Publishers,
925 Walnut Street, Philadelphia.

Galbraith's ❧ ❧
Four Epochs of
Woman's Life ❧

The Four Epochs of Woman's Life: A Study in Hygiene. By ANNA M. GALBRAITH, M. D., Author of "Hygiene and Physical Culture for Women"; Fellow of the New York Academy of Medicine, etc. With an Introductory Note by JOHN H. MUSSER, M. D., Professor of Clinical Medicine, University of Pennsylvania. 12mo volume of 235 pages. Cloth, $0.00 net.

SECOND EDITION—JUST ISSUED

Women have at last awakened to a sense of the penalties they have paid for their ignorance of those laws of nature which govern their physical being, and to feel keenly the necessity for instruction in the fundamental principles which underlie the epochs of their lives. In this instructive work are stated, in a modest, pleasing, and conclusive manner, those truths of which every woman should have a thorough knowledge. Written, as it is, for the laity, the subject is discussed in language readily grasped even by those most unfamiliar with medical subjects.

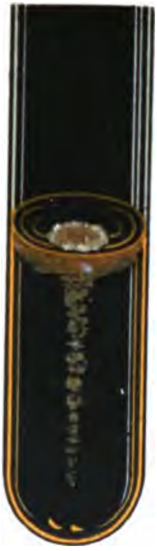
"The author has treated a difficult subject with tact, wisdom, and dignity."—*American Medicine.*

"We do not as a rule care for medical books written for the instruction of the public. But we must admit that the advice in Dr. Galbraith's work is in the main wise and wholesome."—*Birmingham Medical Review,* England.

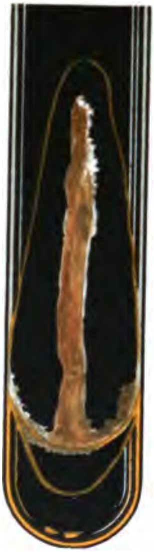
For sale by all Booksellers, or sent post-paid on receipt of price.

W. B. SAUNDERS & CO., Publishers,
925 Walnut Street, Philadelphia.

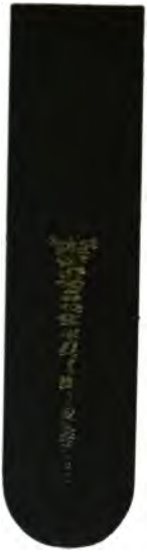
Tab. 67.



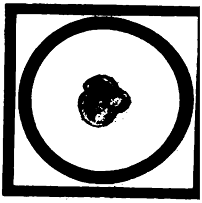
I.



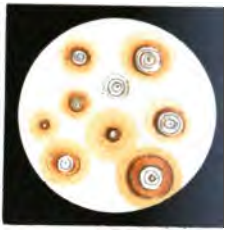
II.



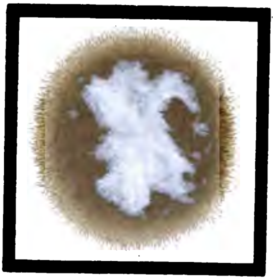
III.



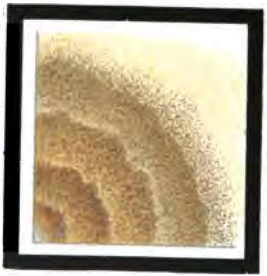
IV.



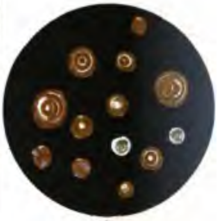
V.



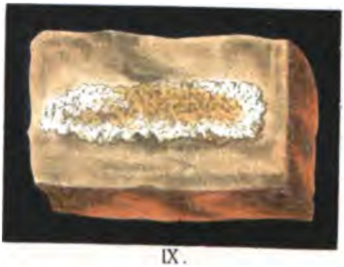
VIII.



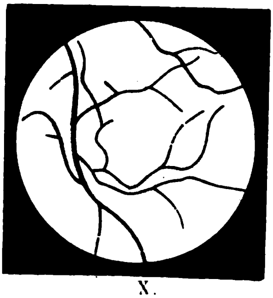
VII.



VI.



IX.



X.

Lith. Anst F. Reichhold, München.

PLATE 67.

Actinomyces chromogenes. Gasperini.

I. *Gelatin stab culture,* six days at 22°.

II. *Agar streak culture,* six days at 22°.

III. *Agar stab culture,* six days at 22°. Stab canal.

IV. *Agar stab culture,* six days at 22°. Surface growth.

V. *Gelatin plate,* eight days at 22°. Natural size. Appearance upon white background.

VI. *Gelatin plate,* eight days at 22°. Natural size. Appearance upon dark background.

VII. *Gelatin plate,* eight days at 22°. × [illegible] Part of a superficial colony.

VIII. *Agar plate,* four days at 22°. × [illegible] superficial and deep colony.

IX. *Potato culture,* three days at 22°. Natural size.

X. *Microscopic preparation.* Pure culture in bouillon, three days at 22°. × about 1000. Stained with fuchsin.

PLATE 68.

Varia.

I. **Bacterium tussis convulsivæ** L. and N. From mucus, coughed up by a child with whooping-cough. × 1000. Ordinary fuchsin stain.

II. **Bact. ulceris cancrosi** (Kruse) L. and N. Section of an untreated soft ulcer of twelve days' duration. Stained according to Unna. (Copied from Peterson, über Bacillenfund bei Ulcus molle, C. B. XIII, Tafel 4.)

III. **Streptococcus meningitidis cerebrospinalis** (Weichselbaum). Lehm. and Neum. Smear preparation from meningeal exudate. Pus cells with flattened diplococci. (Copied after Jäger, Zeitschrift für Hygiene, Bd. 19, Tafel VI, Fig. 3.) × 1000.

IV. **Streptococcus meningitidis cerebrospinalis.** Pure culture, grown from cerebrospinal fluid. × 1000.

V. **Bacterium influenzæ** (R. Pfeiffer) Lehm. and Neum. Smear preparation from nasal secretion. × 1000. Stained with fuchsin.

Bacillus gangrænæ pulpæ. Arkövy.

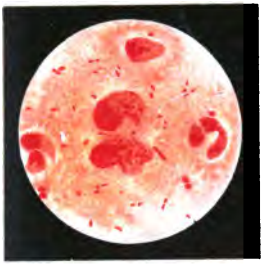
VI. *Gelatin stab culture,* ten days at 22°. The little hairs along the stab canal often become much longer.

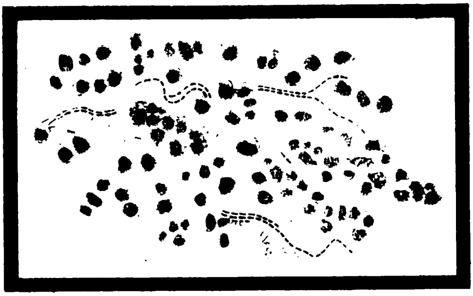
VII. *Agar plate,* three days at 37°. Natural size. Superficial colonies.

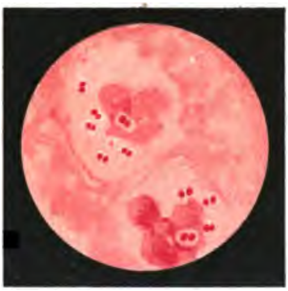
VIII. *Potato culture,* ten days at 22°. The wrinkling of the surface suggests the culture of the mesentericus.

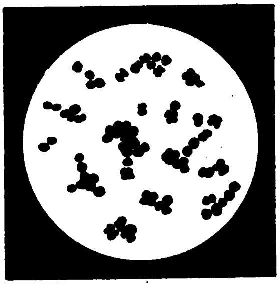
IX. *Microscopic preparation.* × 1000. Stained with fuchsin. Before spore-formation.

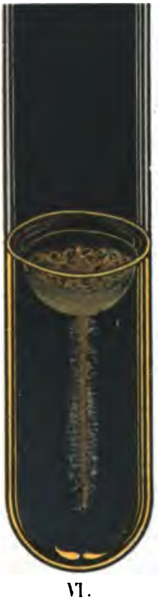
Tab. 68.

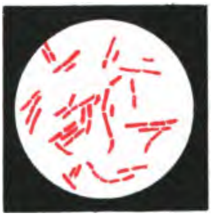

I.

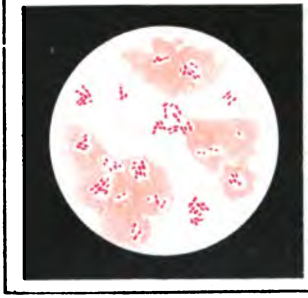

II.

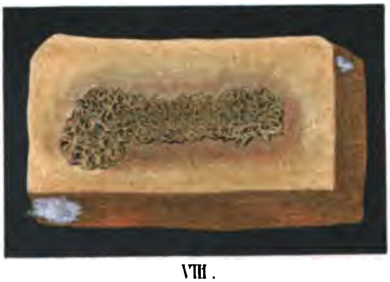

III.

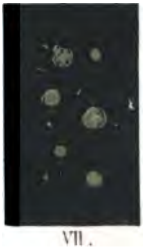

IV.


VI.


IX.

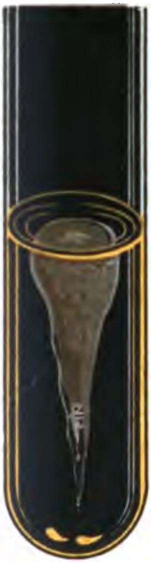

V.

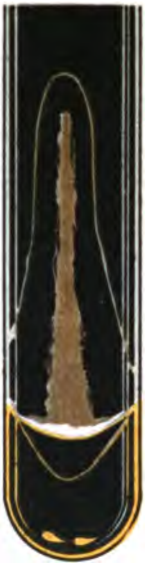

VIII.

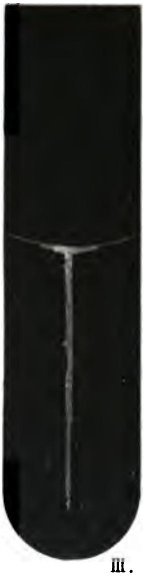

VII.

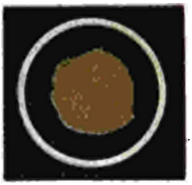
Lith. Anst. F. Reichhold München

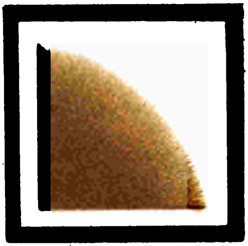
Tab. 69.

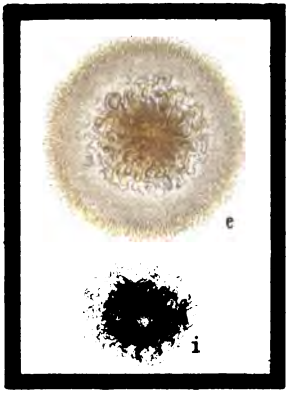

I.


II.

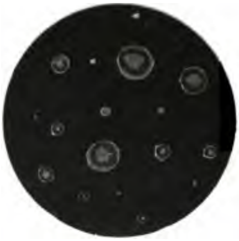

III.

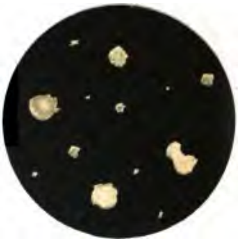

IV.


VI.

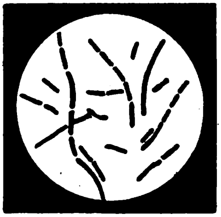


IX.


VIII.


V.

VII.


XI.

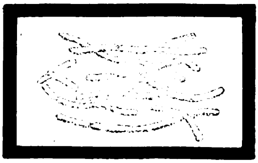


PLATE 69.

Leptothrix epidermidis. Biz.

I. *Gelatin stab culture,* two days at 22°.

II. *Agar streak culture,* two days at 22°.

III. *Agar stab culture,* two days at 22°. Stab canal.

IV. *Agar stab culture,* two days at 22°. Surface growth.

V. *Agar plate,* two days at 22°. Natural size.

VI. *Agar plate,* two days at 22°. × 90. Part of a superficial colony.

VII. *Agar plate,* two days at 22°. × 90. Deep colony.

VIII. *Gelatin plate,* two days at 22°. Natural size.

IX. *Gelatin plate,* one day at 22°: (e) Superficial, (i) deep colony.

X. *Potato culture,* three days at 22°. Natural size.

XI. *Microscopic preparation.* Pure culture on agar, two days at 22°. × 1000. Stained with fuchsin.

XII. *Microscopic preparation.* Bouillon culture in hanging drop, two days at 22°. × about 1000.

SAUNDERS' MEDICAL HAND-ATLASES

A SERIES OF BOOKS OFFERING
A SATISFACTORY SUBSTITUTE FOR ACTUAL CLINICAL WORK

SPECIAL OFFER

AS it is impossible to realize the beauty and cheapness of these atlases without an opportunity to examine them, we make the following offer: Any one of these books will be sent to physicians, carriage prepaid, upon request. If you want the book, you have merely to remit the price; if not, return the book by mail.

A Descriptive Catalogue of all our Publications Sent on Request

W. B. SAUNDERS & COMPANY
925 Walnut Street Philadelphia

NEW YORK
Fuller Building, 5th Ave. and 23d St.

LONDON
9, Henrietta St., Covent Garden

SAUNDERS'
MEDICAL HAND-ATLASES

Moderate Price

IN planning this series of books arrangements were made with representative publishers in the chief medical centers of the world for the publication of translations of the atlases in thirteen different languages, the lithographic plates for all being made in Germany, where work of this kind has been brought to the greatest perfection. The enormous expense of making the plates being shared by the various publishers, the cost to each one was reduced approximately to one-tenth. Thus, by reason of their **universal translation** and reproduction, affording international distribution, the publishers have been enabled to secure for these atlases the **best artistic** and **professional talent,** to produce them in the **most elegant style,** and yet to offer them at a **price heretofore unapproached in cheapness.**

Substitute for Clinical Observation

One of the most valuable features of these atlases is that they offer a **ready and satisfactory substitute for clinical observation.** Such observation, of course, is available only to the residents in large medical centers; and even then the requisite variety is seen only after long years of routine hospital work. To those unable to attend important clinics these books will be absolutely indispensable, as presenting in a complete and convenient form the most accurate reproductions of clinical work, interpreted by the most competent of clinical teachers.

Adopted by U. S. Army

As an indication of the great practical value of the atlases and of the immense favor with which they have been received, it should be noted that the **Medical Department of the U. S. Army** has adopted the "Atlas of Operative Surgery" as its standard, and has ordered the book in large quantities for distribution to the various regiments and army posts.

Sobotta and Huber's Human Histology

Atlas and Epitome of Human Histology. By PRIVAT-DOCENT DR. J. SOBOTTA, of Würzburg. Edited, with additions, by G. CARL HUBER, M. D., Junior Professor of Anatomy and Histology, and Director of the Histological Laboratory, University of Michigan, Ann Arbor. With 214 colored figures on 80 plates, 68 text-cuts, and 248 pages of text. Cloth, $4.50 net.

INCLUDING MICROSCOPIC ANATOMY

This work combines an abundance of well-chosen and most accurate illustrations with a concise text, and in such a manner as to make it both atlas and text-book. The great majority of the illustrations were made from sections prepared from human tissues, and always from fresh and in every respect normal specimens. The colored lithographic plates have been produced with the aid of over thirty colors, and particular care was taken to avoid distortion and assure exactness of magnification. The text is as brief as possible; clearness, however, not being sacrificed to brevity. The editor of the English translation has annotated and altered very freely certain portions of the sections on the adenoid tissues, blood and the blood-forming organs, muscular tissues, special sense organs, and peripheral nerve distributions, in order to make these parts of the work conform to the latest advances in the study of these tissues.

OPINIONS OF THE MEDICAL PRESS

Boston Medical and Surgical Journal

"In color and proportion they are characterized by gratifying accuracy and lithographic beauty. . . . May be highly recommended to those who are without access to histological collections."

Bulletin Johns Hopkins Hospital

"A ready means of getting a good idea of the appearance of normal human tissues, hardened, sectioned, and stained. . . . The additions which the editor of the translation has made are of such value that one wishes he had used his hand more freely."

Unsurpassed for accuracy, pictorial beauty, completeness, cheapness

Grünwald and Newcomb's Mouth, Pharynx, Nose

Atlas and Epitome of Diseases of the Mouth, Pharynx, and Nose. By Dr. L. Grünwald, of Munich. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by James E. Newcomb, M. D., Instructor in Laryngology, Cornell University Medical School; Attending Laryngologist to the Roosevelt Hospital, Out-Patient Department. With 102 illustrations on 42 colored lithographic plates, 41 text-cuts, and 219 pages of text. Cloth, $3.00 net.

INCLUDING ANATOMY AND PHYSIOLOGY

In designing this atlas the needs of both student and practitioner were kept constantly in mind, and as far as possible typical cases of the various diseases were selected. The illustrations are described in the text in exactly the same way as a practised examiner would demonstrate the objective findings to his class, the book thus serving as a substitute for actual clinical work. The illustrations themselves are numerous and exceedingly well executed, portraying the conditions so strikingly that their study is almost equal to examination of the actual specimens. The editor has incorporated his own valuable experience, including notes on the use of the active principle of the suprarenal bodies.

OPINIONS OF THE MEDICAL PRESS

American Medicine

"Its conciseness without sacrifice of clearness and thoroughness, as well as the excellence of text and illustration are commendable."

Journal of Ophthalmology, Otology, and Laryngology

"A collection of the most naturally colored lithographic plates that has been published in any book in the English language. . . . Very valuable alike to the student, the practitioner, and the specialist."

Helferich and Bloodgood's Fractures and Dislocations

Atlas and Epitome of Traumatic Fractures and Dislocations. By Professor Dr. H. Helferich, Professor of Surgery at the Royal University, Greifswald, Prussia. Edited, with additions, by Joseph C. Bloodgood, M. D., Associate in Surgery, Johns Hopkins University, Baltimore. *From the Fifth Revised and Enlarged German Edition.* With 216 colored illustrations on 64 lithographic plates, 190 text-cuts, and 353 pages of text. Cloth, $3.00 net.

SHOWING DEFORMITY, X-RAY SHADOW, AND TREATMENT

This department of medicine being one in which, from lack of practical knowledge, much harm can be done, and in which in recent years great importance has obtained, a book, accurately portraying the anatomic relations of the fractured parts, together with the diagnosis and treatment of the condition, becomes an absolute necessity. This present work fully meets all requirements. As complete a view as possible of each case has been presented, thus equipping the physician for the manifold appearances that he will meet with in practice. The illustrations show the visible external deformity, the X-ray shadow, the anatomic preparation, and the method of treatment.

OPINIONS OF THE MEDICAL PRESS

Medical News, New York

"This compact and exceedingly attractive little volume will be most welcome to all who are interested in the practical application of anatomy. The author and editor have made a most successful effort to arrange the illustrations that the interpretation of what they are intended to present is exceedingly easy."

Brooklyn Medical Journal

"There are few books published that better answer the requirements for illustration than this work of Professor Helferich. . . . Such a collection of illustrations must be the result of much labor and thought."

They are Satisfactory Substitutes for Clinical Observation

Sultan and Coley's Abdominal Hernias

Atlas and Epitome of Abdominal Hernias. By Privat-docent Dr. Georg Sultan, of Göttingen. Edited, with additions, by William B. Coley, M. D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons), New York. With 119 illustrations, 36 of them in colors, and 277 pages of text. Cloth, $3.00 net.

DEALING WITH THE SURGICAL ASPECT

This new atlas covers one of the most important subjects in the entire domain of medical teaching, since these hernias are not only exceedingly common, but the frequent occurrence of strangulation demands extraordinarily quick and energetic surgical intervention. During the last decade the operative side of this subject has been steadily growing in importance, until now it is absolutely essential to have a book treating of its surgical aspect. This present atlas does this to an admirable degree. The illustrations are not only very numerous, but they excel, in the accuracy of the portrayal of the conditions represented, those of any other work upon abdominal hernias with which we are familiar. The work will be found a worthy exponent of our present knowledge of the subject of which it treats.

PERSONAL AND PRESS OPINIONS

Robert H. M. Dawbarn, M. D.,

Professor of Surgery and Surgical Anatomy, New York Polyclinic.

"I have spent several interested hours over it to-day, and shall willingly recommend it to my classes at the Polyclinic College and elsewhere."

Boston Medical and Surgical Journal

"For the general practitioner and the surgeon it will be a very useful book for reference. The book's value is increased by the editorial notes of Dr. Coley."

Brühl, Politzer, and MacCuen Smith's Otology

Atlas and Epitome of Otology. By GUSTAV BRÜHL, M. D., of Berlin, with the collaboration of Professor DR. A. POLITZER, of Vienna. Edited, with additions, by S. MACCUEN SMITH, M. D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. With 244 colored figures on 39 lithographic plates, 99 text-illustrations, and 292 pages of text. Cloth, $3.00 net.

INCLUDING ANATOMY AND PHYSIOLOGY

This excellent volume is the first attempt to supply in English an illustrated clinical handbook to act as a worthy substitute for personal instruction in a specialized clinic. This work is both didactic and clinical in its teaching, the latter aspect being especially adapted to the student's wants. A special feature is the very complete exposition of the minute anatomy of the ear, a working knowledge of which is so essential to an intelligent conception of the science of otology. The illustrations are beautifully executed in colors, and illuminate the text in a singularly lucid manner, portraying pathologic changes with such striking exactness that the student should receive a deeper and more lasting impression than the most elaborate description could produce. Further, the association of Professor Politzer in the preparation of the work, and the use of so many valuable specimens from his notably rich collection especially enhance the value of the work. The text contains everything of importance in the elementary study of otology.

PERSONAL AND PRESS OPINIONS

Clarence J. Blake, M. D.,

Professor of Otology, Harvard University Medical School, Boston.

"The most complete work of its kind as yet published, and one commending itself to both the student and teacher in the character and scope of its illustrations."

Boston Medical and Surgical Journal

"Contains what is probably the best collection of colored plates of the ear, both of normal and pathological conditions, of any hand-book published in the English language. In addition to this the text is presented in an unusually clear and direct manner."

They are offered at a price heretofore unapproached in cheapness

Lehmann, Neumann, and Weaver's Bacteriology

Atlas and Epitome of Bacteriology: INCLUDING A TEXT-BOOK OF SPECIAL BACTERIOLOGIC DIAGNOSIS. By PROF. DR. K. B. LEHMANN and DR. R. O. NEUMANN, of Würzburg. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by G. H. WEAVER, M. D., Assistant Professor of Pathology and Bacteriology, Rush Medical College, Chicago. In two parts. Part I.—632 colored figures on 69 lithographic plates. Part II.—511 pages of text, illustrated. Per part: Cloth, $2.50 net.

INCLUDING SPECIAL BACTERIOLOGIC DIAGNOSIS

This work furnishes a survey of the properties of bacteria, together with the causes of disease, disposition, and immunity, reference being constantly made to an appendix of bacteriologic technic. The special part gives a complete description of the important varieties, the less important ones being mentioned when worthy of notice. The lithographic plates, as in all this series, are accurate representations of the conditions as actually seen, and this collection, if anything, is more handsome than any of its predecessors. As an aid in original investigation the work is invaluable.

OPINIONS OF THE MEDICAL PRESS

American Journal of the Medical Sciences

"Practically all the important organisms are represented, and in such a variety of forms and cultures that any other atlas would rarely be needed in the ordinary hospital laboratory."

The Lancet, London

"We have found the work a more trustworthy guide for the recognition of unfamiliar species than any with which we are acquainted."

There have been 82,000 copies imported since publication

Zuckerkandl and DaCosta's Operative Surgery

Second Edition, Revised and Greatly Enlarged

Atlas and Epitome of Operative Surgery. By DR. O. ZUCKERKANDL, of Vienna. Edited, with additions, by J. CHALMERS DACOSTA, M. D., Professor of the Principles of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia. With 40 colored plates, 278 text-cuts, and 410 pages of text. Cloth, $3.50 net.

ADOPTED BY THE U. S. ARMY

In this new edition the work has been brought precisely down to date. The revision has not been casual, but thorough and exhaustive, the entire text having been subjected to a careful scrutiny, and many improvements and additions made. A number of chapters have been practically rewritten, and of the newer operations, all those of special value have been described. The number of illustrations has also been materially increased. Sixteen valuable lithographic plates in colors and sixty-one text-figures have been added, thus greatly enhancing the value of the work. There is no doubt that the volume in its new edition will still maintain its leading position as a substitute for clinical instruction.

OPINIONS OF THE MEDICAL PRESS

Philadelphia Medical Journal

"The names of Zuckerkandl and DaCosta, the fact that the book has been translated into 13 different languages, together with the knowledge that it is used in the United States Army and Navy, would be sufficient recommendation for most of us."

Munchener Medicinische Wochenschrift

"We know of no other work that combines such a wealth of beautiful illustrations with clearness and conciseness of language, that is so entirely abreast of the latest achievements, and so useful both for the beginner and for one who wishes to increase his knowledge of operative surgery."

Dürck and Hektoen's Special Pathologic Histology

Atlas and Epitome of Special Pathologic Histology. By Dr. H. Dürck, of Munich. Edited, with additions, by Ludvig Hektoen, M. D., Professor of Pathology, Rush Medical College, Chicago. In Two Parts. Part I.—Circulatory, Respiratory, and Gastro-intestinal Tracts. 120 colored figures on 62 plates, and 158 pages of text. Part II.—Liver, Urinary and Sexual Organs, Nervous System, Skin, Muscles, and Bones. 123 colored figures on 60 plates, and 192 pages of text. Per part: Cloth, $3.00 net.

A RARE COLLECTION OF BEAUTIFUL PLATES

The colored lithographs of this volume are beautifully reproduced, and are extremely accurate representations of the microscopic changes produced by disease. The great value of these plates is that they represent in the exact colors the effect of the stains, which is of such great importance for the differentiation of tissue. The text portion of the book is admirable, and, while brief, it is entirely satisfactory in that the leading facts are stated, and so stated that the reader feels he has grasped the subject extensively. The work is modern and scientific, and altogether forms a concise and systematic view of pathologic knowledge.

PERSONAL OPINIONS

William H. Welch, M. D.,

Professor of Pathology, Johns Hopkins University, Baltimore.

"I consider Dürck's 'Atlas of Special Pathologic Histology,' edited by Hektoen, a very useful book for students and others. The plates are admirable."

Frank B. Mallory, M. D.,

Assistant Professor of Pathology, Harvard University Medical School, Boston.

"The information is presented in a very compact form; it is carefully arranged, briefly and clearly stated, and almost always represents our latest knowledge of the subject."

Haab and deSchweinitz's Ophthalmoscopy

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By DR. O. HAAB, of Zürich. *From the Third Revised and Enlarged German Edition.* Edited, with additions, by G. E. DESCHWEINITZ, M. D., Professor of Ophthalmology, University of Pennsylvania. With 152 colored lithographic illustrations; 85 pages of text. Cloth, $3.00 net.

Not only is the student made acquainted with carefully prepared ophthalmoscopic drawings done into well-executed lithographs of the most important fundus changes, but, in many instances, plates of the microscopic lesions are added. It furnishes a manual of the greatest possible service.

The Lancet, London

"We recommend it as a work that should be in the ophthalmic wards or in the library of every hospital into which ophthalmic cases are received."

Haab and deSchweinitz's External Diseases of Eye

Atlas and Epitome of External Diseases of the Eye. By DR. O. HAAB, of Zürich. Edited, with additions, by G. E. DESCHWEINITZ, M. D., Professor of Ophthalmology, University of Pennsylvania. With 76 colored illustrations on 40 lithographic plates and 228 pages of text. Cloth, $3.00 net.

This new work of the distinguished Zürich ophthalmologist is destined to become a valuable handbook in the library of every practising physician. The conditions attending diseases of the external eye have probably never been more clearly and comprehensively expounded than in the forelying work, in which the pictorial most happily supplements the verbal description.

The Medical Record, New York

"The work is excellently suited to the student of ophthalmology and to the practising physician. It cannot fail to attain a well-deserved popularity."

They are convenient in size and uniformly bound

Schäffer *and* Edgar's Labor *and* Operative Obstetrics

Atlas and Epitome of Labor and Operative Obstetrics. By Dr. O. Schäffer, of Heidelberg. *From the Fifth Revised and Enlarged German Edition.* Edited, with additions, by J. Clifton Edgar, M. D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. 14 lithographic plates in colors; 139 other cuts; 111 pages of text. $2.00 net.

The book presents the act of parturition and the various obstetric operations in a series of easily understood illustrations. These are accompanied by a text that treats the subject from a practical standpoint.

Dublin Journal of Medical Science, Dublin

"One fault Professor Schäffer's Atlases possess. Their name, and the extent and number of the illustrations, are apt to lead one to suppose that they are merely 'atlases,' whereas the truth really is they are also concise and modern epitomes of obstetrics."

Schäffer & Edgar's Obstetric Diagnosis and Treatment

Atlas and Epitome of Obstetric Diagnosis and Treatment. By Dr. O. Schäffer, of Heidelberg. *From the Second Revised German Edition.* Edited, with additions, by J. Clifton Edgar, M. D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. 122 colored figures on 56 plates; 38 other cuts; 315 pages of text. $3.00 net.

This book treats particularly of obstetric operations, and, besides the wealth of beautiful lithographic illustrations, contains an extensive text of great value. This text deals with the practical, clinical side of the subject.

New York Medical Journal

"The illustrations are admirably executed, as they are in all of these atlases, and the text can safely be commended, not only as elucidatory of the plates, but as expounding the scientific midwifery of to-day."

These are the famous "Lehmann medicinische Handatlanten"

Mracek and Stelwagon's Skin

Atlas and Epitome of Diseases of the Skin. By PROF. DR. FRANZ MRACEK, of Vienna. Edited, with additions, by HENRY W. STELWAGON, M. D., Clinical Professor of Dermatology, Jefferson Medical College, Philadelphia. With 63 colored plates, 39 half-tone illustrations, and 200 pages of text. Cloth, $3.50 net.

This volume, the outcome of years of scientific and artistic work, contains, together with colored plates of unusual beauty, numerous illustrations in black, and a text comprehending the entire field of dermatology. The illustrations are all original and prepared from actual cases in Mracek's clinic.

American Journal of the Medical Sciences

"The advantages which we see in this book and which recommend it to our minds are: First, its handiness; secondly, the plates, which are excellent as regards drawing, color, and the diagnostic points which they bring out. We most heartily recommend it."

Mracek and Bang's Syphilis *and* Venereal Diseases

Atlas and Epitome of Syphilis and the Venereal Diseases. By PROF. DR. FRANZ MRACEK, of Vienna. Edited, with additions, by L. BOLTON BANGS, M. D., late Prof. of Genito-Urinary Surgery, University and Bellevue Hospital Medical College, New York. With 71 colored plates and 122 pages of text. Cloth, $3.50 net.

According to the unanimous opinion of numerous authorities, to whom the original illustrations of this book were presented, they surpass in beauty anything of the kind that has been produced in this field, not only in Germany, but throughout the literature of the world.

Robert L. Dickinson, M. D.,

Art Editor of "The American Text-Book of Obstetrics."

"The book that appeals instantly to me for the strikingly successful, valuable, and graphic character of its illustrations is the 'Atlas of Syphilis and the Venereal Diseases.' I know of nothing in this country that can compare with it."

The lithographs, all made in Germany, are unrivalled

Jakob and Fisher's Nervous System & its Diseases

Atlas and Epitome of the Nervous System and its Diseases. By Professor Dr. Chr. Jakob, of Erlangen. *From the Second Revised German Edition.* Edited, with additions, by Edward D. Fisher, M. D., Professor of Diseases of the Nervous System, University and Bellevue Hospital Medical College, New York. With 83 plates and copious text. Cloth, $3.50 net.

The matter is divided into Anatomy, Pathology, and Description of Diseases of the Nervous System. The plates illustrate these divisions most completely; especially is this so in regard to pathology. The exact site and character of the lesion are portrayed in such a way that they cannot fail to impress themselves on the memory of the reader.

Philadelphia Medical Journal

"We know of no one work of anything like equal size which covers this important and complicated field with the clearness and scientific fidelity of this hand-atlas."

Shaffer and Norris' Gynecology

Atlas and Epitome of Gynecology. By Dr. O. Shaffer, of Heidelberg. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by Richard C. Norris, A. M., M. D., Gynecologist to Methodist-Episcopal and Philadelphia Hospitals. With 207 colored figures on 90 plates, 65 text-cuts, and 308 pages of text. Cloth, $3.50 net.

The value of this atlas will be found not only in the concise explanatory text, but especially in the illustrations. The large number of colored plates, reproducing the appearance of fresh specimens, will give the student a knowledge of the changes induced by disease that cannot be obtained from mere description.

Bulletin of Johns Hopkins Hospital, Baltimore

"The book contains much valuable material. Rarely have we seen such a valuable collection of gynecological plates."

These books are next best to actual clinical work

Hofmann and Peterson's Legal Medicine

Atlas of Legal Medicine. By DR. E. VON HOFMANN, of Vienna. Edited by FREDERICK PETERSON, M. D., Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York. With 120 colored figures on 56 plates and 193 half-tone illustrations. Cloth, $3.50 net.

By reason of the wealth of illustrations and the fidelity of the colored plates, the book supplements all the text-books on the subject. Moreover, it furnishes to every physician, student, and lawyer a veritable treasure-house of information.

The Practitioner, London

"The illustrations appear to be the best that have ever been published in connection with this department of medicine, and they cannot fail to be useful alike to the medical jurist and to the student of forensic medicine."

Golebiewski and Bailey's Accident Diseases

Atlas and Epitome of Diseases Caused by Accidents. By DR. ED. GOLEBIEWSKI, of Berlin. Edited, with additions, by PEARCE BAILEY, M. D., Attending Physician to the Almshouse and Incurable Hospitals, New York. With 71 colored illustrations on 40 plates, 143 text-illustrations, and 549 pages of text. Cloth, $4.00 net.

This work contains a full and scientific treatment of the subject of accident injury; the functional disability caused thereby; the medicolegal questions involved, and the amount of indemnity justified in given cases.

Medical Examiner and Practitioner

"It is a useful addition to life-insurance libraries, for lawyers, physicians, and for every one who is brought in contact with the treatment or consideration of accidents or diseases growing out of them, or legal complications flowing from them."

The "Atlas of Operative Surgery" has been adopted by U. S. Army

Jakob and Eshner's Internal Medicine & Diagnosis

Atlas and Epitome of Internal Medicine and Clinical Diagnosis. By DR. CHR. JAKOB, of Erlangen. Edited, with additions, by AUGUSTUS A. ESHNER, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic. With 182 colored figures on 68 plates, 64 illustrations in black and white, and 259 pages of text. Cloth, $3.00 net.

In addition to an admirable atlas of clinical microscopy, this volume describes the physical signs of all internal diseases in an instructive manner by means of fifty colored schematic diagrams. As a means of instruction its value is very great; as a reference handbook it is admirable.

British Medical Journal

"Dr. Jakob's work deserves nothing but praise. The information is accurate and up to present-day requirements."

Grünwald and Grayson's Diseases of the Larynx

Atlas and Epitome of Diseases of the Larynx. By DR. L. GRÜNWALD, of Munich. Edited, with additions, by CHARLES P. GRAYSON, M. D., Physician-in-Charge, Throat and Nose Department, Hospital of the University of Pennsylvania. With 107 colored figures on 44 plates, 25 text-illustrations, and 103 pages of text. Cloth, $2.50 net.

This atlas exemplifies a happy blending of the didactic and clinical, such as is not to be found in any other volume upon this subject. The author has given special attention to the clinical portion of the work, the sections on diagnosis and treatment being particularly full.

The Medical Record, New York

"This is a good work of reference, being both practical and concise. . . . It is a valuable addition to existing laryngeal text-books."

For "Special Offer" regarding these atlases see page 1

SAUNDERS' MEDICAL HAND-ATLASES

Atlas and Epitome of Internal Medicine and Clinical Diagnosis. By Dr. Chr. Jakob, of Erlangen. Edited, with additions, by Augustus A. Eshner, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic. With 179 colored figures on 68 plates and 259 pages of text. Cloth, $3.00 net.

"Dr. Jakob's work deserves nothing but praise. The information is accurate and up to present-day requirements."—*British Medical Journal.*

Atlas of Legal Medicine. By Dr. E. von Hofmann, of Vienna. Edited, with additions, by Frederick Peterson, M. D., Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York. With 120 colored figures on 56 plates and 193 half-tone illustrations. Cloth, $3.50 net.

"It is rare indeed that so large a series of illustrations are found which demonstrate so well and so accurately the conditions which they are supposed to represent."—*Boston Medical and Surgical Journal.*

Atlas and Epitome of Diseases of the Larynx. By Dr. L. Grunwald, of Munich. Edited, with additions, by Charles P. Grayson, M. D., Physician-in-Charge, Throat and Nose Department, Hospital of the University of Pennsylvania. With 107 colored figures on 44 plates, 25 text-illustrations, and 103 pages of text. Cloth, $2.50 net.

"Excels everything we have hitherto seen in the way of coloured illustrations of diseases of the larynx."—*British Medical Journal.*

Atlas and Epitome of Operative Surgery. By Dr. O. Zuckerkandl, of Vienna. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by J. Chalmers DaCosta, M. D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. *Second Edition, Revised and Greatly Enlarged.* With 40 colored plates, 278 text-cuts, and 410 pages of text. Cloth, $3.50 net.

"It may be said that few, if any, books of this description are so comprehensive in their scope."—*Philadelphia Medical Journal.*

Atlas and Epitome of Syphilis and the Venereal Diseases. By Prof. Dr. Franz Mracek, of Vienna. Edited, with additions, by L. Bolton Bangs, M. D., late Prof. of Genito-Urinary Surgery, University and Bellevue Hospital Medical College, New York. With 71 colored plates and 122 pages of text. Cloth, $3.50 net.

"A glance through the book is almost like actual attendance upon a famous clinic."—*Journal of the American Medical Association.*

Atlas and Epitome of External Diseases of the Eye. By Dr. O. Haab, of Zurich. Edited, with additions, by G. E. de Schweinitz, M. D., Professor of Ophthalmology in the University of Pennsylvania. With 76 colored illustrations on 40 plates and 228 pages of text. Cloth, $3.00 net.

"The work is excellently suited to the student of ophthalmology and to the practising physician. The enviable status of the author and of the editor guarantees the excellence of the work."—*Medical Record,* New York.

Atlas and Epitome of Skin Diseases. By Prof. Dr. Franz Mracek, of Vienna. Edited, with additions, by Henry W. Stelwagon, M. D., Clinical Professor of Dermatology, Jefferson Medical College, Philadelphia. With 63 colored plates, 39 half-tone illustrations, and 200 pages of text. Cloth, $3.50 net.

"The illustrations are very well executed, and the coloring remarkably accurate; they will serve as substitutes for clinical observation."—*Medical Record,* New York.

Atlas and Epitome of Special Pathologic Histology. By Dr. H. Durck, of Munich. Edited, with additions, by Ludvig Hektoen, M. D., Professor of Pathology, Rush Medical College, Chicago. In Two Parts. Part I.—Circulatory, Respiratory, and Gastro-intestinal Tracts. Part II.—Liver, Urinary and Sexual Organs, Nervous System, Skin, Muscles, and Bones. With 243 colored figures on 122 plates, and 350 pages of text. Per part: $3.00 net.

"The work maintains the high standard of its predecessors. The plates are most beautifully reproduced and are accurate representations of the microscopic structure of the various organs concerned and the changes produced by disease."—*The Lancet,* London.

Atlas and Epitome of Diseases Caused by Accidents. By Dr. Ed. Golebiewski, of Berlin. Translated and edited, with additions, by Pearce Bailey, M. D., Attending Physician to the Almshouse and Incurable Hospitals, New York. With 71 colored figures on 40 plates; 143 text-illustrations; 549 pages of text. Cloth, $4.00 net.

"This volume appeals not only to the medical student and the practitioner, but to the medico-legal specialist and accident insurance companies also."—*New York Med. Jour.*

Atlas and Epitome of Gynecology. By Dr. O. Schaeffer, of Heidelberg. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by Richard C. Norris, A. M., M. D., Gynecologist to the Methodist Episcopal and Philadelphia Hospitals. With 207 colored illustrations on 90 plates, 65 text-illustrations, and 308 pages of text. $3.50 net.

"The book contains much valuable material. . . . Rarely have we seen such a valuable collection of gynecological plates."—*Bulletin of Johns Hopkins Hospital.*

COUNTWAY LIBRARY
HC 2EL5 D

RS' MEDICAL HAND-ATLASES

Atlas and Epitome of Labor and Operative Obstetrics. By Dr. O. Schaeffer, of Heidelberg. *From the Fifth Revised and Enlarged German Edition.* Edited by J. C. Edgar, M. D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 14 lithographic plates in colors, 139 other illustrations. $2.00 net.

"A careful study of the plates and drawings is the next best thing to actual clinical experience."—*Buffalo Medical Journal.*

Atlas and Epitome of Obstetrical Diagnosis and Treatment. By Dr. O. Schaeffer, of Heidelberg. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by J. C. Edgar, M. D., Professor of Obstetrics and Clinical Midwifery. Cornell University Medical School. With 122 colored figures on 56 plates, 38 other illustrations, and 315 pages of text. Cloth, $3.00 net.

"The illustrations are admirably executed . . . and the text expounds the scientific midwifery of to-day."—*New York Medical Journal.*

Atlas and Epitome of the Nervous System and its Diseases. By Prof. Dr. Chr. Jakob, of Erlangen. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by E. D. Fisher, M. D., Professor of Diseases of the Nervous System, University and Bellevue Hospital Medical College, New York. 83 plates; 215 pages of text. $3.50 net.

"Represents with wonderful accuracy the macroscopic and microscopic anatomy of the nervous tissues as found in normal and pathologic conditions."—*American Medicine.*

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By Dr. O. Haab, of Zurich. *From the Third Revised and Enlarged German Edition.* Edited, with additions, by G. E. de Schweinitz, M. D., Professor of Ophthalmology in the University of Pennsylvania. With 152 colored figures; 82 pages of text. Cloth, $3.00 net.

"Nowhere else can be found such a fine pictorial collection of changes and lesions of the eye-fundus as this volume contains."—*Journal of the American Medical Association.*

Atlas of Bacteriology and Text-Book of Special Bacteriologic Diagnosis. By Prof. Dr. K. B. Lehmann and Dr. R. O. Neumann, of Würzburg. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by G. H. Weaver, M. D., Assistant Professor of Pathology and Bacteriology, Rush Medical College, Chicago. Two volumes. Part I.—632 colored figures on 69 plates. Part II.—511 pages of text, illustrated. Per volume: Cloth, $2.50 net.

"The illustrations . . . are works of art; they are true in color and relationship and are much superior to the usual photographic reproductions."—*Buffalo Medical Journal.*

Atlas and Epitome of Otology. By G. Bruhl, M. D., of Berlin, with the collaboration of Prof. Dr. A. Politzer, of Vienna. Edited, with additions, by S. MacCuen Smith, M. D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. 244 colored figures on 39 lithographic plates, 99 text-cuts, and 292 pages of text. Cloth, $3.00 net.

"The most complete of its kind as yet published."—Clarence J. Blake, M. D., *Professor of Otology, Harvard Medical School, Boston.*

Atlas and Epitome of Abdominal Hernias. By Privatdocent Dr. Georg Sultan, of Göttingen. Edited, with additions, by William B. Coley, M. D., Clinical Lecturer on Surgery, Columbia University, N. Y. 119 illustrations, 36 in colors; 277 pages of text. Cloth, $3.00 net.

"For the general practitioner and the surgeon it will be a very useful book for reference. The book's value is increased by the editorial notes of Dr. Coley."—*Boston Medical and Surgical Journal.*

Atlas and Epitome of Traumatic Fractures and Dislocations. By Prof. Dr. H. Helferich, of Greifswald. Edited, with additions, by Joseph C. Bloodgood, M. D., Associate in Surgery, Johns Hopkins University, Baltimore. With 216 colored figures on 64 lithographic plates, 190 text-cuts, and 353 pages of text. Cloth, $3.00 net.

Such a splendid collection of illustrations is possible only in a very large clinic, and represent time, labor, and great care.

Atlas and Epitome of Diseases of the Mouth, Pharynx, and Nose. By Dr. L. Grünwald, of Munich. *From the Second Revised and Enlarged German Edition.* Edited, with additions, by James E. Newcomb, M. D., Clinical Instructor in Laryngology, Cornell University Medical School. With 102 colored figures on 42 lithographic plates, 41 text-cuts, and 219 pages of text. Cloth, $3.00 net.

This work also contains an admirable exposition of the anatomy and physiology of the organs under discussion.

Atlas and Epitome of Human Histology and Microscopic Anatomy. By Pr. Dr. J. Sobotta, of Würzburg. Edited, with additions, by G. Carl Huber, M. D., Junior Prof. of Anatomy and Director of the Histological Laboratory, University of Michigan. 214 colored figures on 80 plates, 68 text-cuts, and 248 pages of text. Cloth, $4.50 net.

This work will serve as an atlas, text-book, and book of reference, combining, as it does, most accurate illustrations with a concise text.

W. B. SAUNDERS & COMPANY

Philadelphia New York London